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Promoting Successful Dining for People with Dementia at Rockridge Retirement Community: Music and More

Brooke Ellis

Western New England University

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Promoting Successful Dining for People with Dementia at Rockridge Retirement

Community: Music and More

A Doctoral Experiential Capstone Project

Presented

To the Faculty of

Western New England University

In Partial Fulfillment

of the Requirements for the

Entry-Level Doctorate In

Occupational Therapy

By

Brooke Ellis, OTS 2021

July 2021

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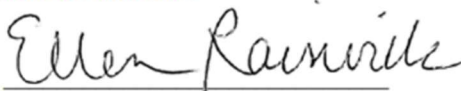


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Promoting Successful Dining for People with Dementia at Rockridge Retirement Community: Music and More

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Dementia is an umbrella term for a loss of memory and other thinking abilities that are severe enough to interfere with everyday life ^[1]. In the United States, there are 5.8 million Americans who are living with Alzheimer's dementia, with this number being expected to rapidly increase to 88 million by 2050 ^[1]. Some of the challenges associated with dementia include a progressive decline in one's ability to make decisions, communicate with others, and perform functional tasks ^[4]. One functional task often impacted by dementia is self-feeding, which is described as tasks associated with setting up, arranging, and bringing food or fluid from the vessel to the mouth ^[2]. While pharmacological treatments are heavily utilized to treat symptoms associated with dementia, these drugs have been scrutinized by the British National Institute for Clinical Excellence (NICE) as not being able to meaningfully improve quality of life or delay transitions to skilled nursing facilities despite their costs ^[3]. One non-pharmacological alternative to the use of drugs to treat difficulties with tasks like self-feeding is modifying aspects of the physical environment to encourage success at the individual's current level of functioning ^[5]. Music can also be utilized as a means of enhancing self-feeding participation and ability. Further exploration of these non-pharmacological treatments may help reduce reliance on costly and ineffective pharmacological interventions used to treat symptoms of dementia.

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Keywords: dementia, self-feeding, occupational therapy, music, physical environment

Introduction

Dementia is an umbrella term for a loss of memory and other thinking abilities that are severe enough to interfere with everyday life (Alzheimer's Association, 2020). In the United States, there are 5.8 million Americans who are living with Alzheimer's dementia, with this number being expected to rapidly increase to 88 million by 2050 (Alzheimer's Association, 2019). There are several different types of dementia including Alzheimer's disease, Lewy Body dementia, frontotemporal dementia, and vascular dementia, however, Alzheimer's disease is currently the most prevalent type (Hamdy et al., 2019). Dementia particularly impacts older adults, with dementia impacting anywhere from 21.75% to 47.5% of adults older than the age of 85 in the United States (Hamdy et al., 2019). This is compared to a prevalence rate of 1.1% in people ages 6 to 64 in the United States (Hamdy et al., 2019). Some of the challenges associated with dementia include a progressive decline in one's ability to make decisions, communicate with others, and perform functional tasks (McDonald et al., 2010). During advanced stages of dementia, memory, verbal skills, ambulation abilities, and the ability to perform activities of daily living are strongly impaired (Mitchell, 2015). As a result of these challenges, many individuals with dementia are often unable to age in place at home and must consider other residential options such as an assisted living residence (ALR) or skilled nursing facility (SNF). While some of the symptoms of dementia can be mitigated through different treatment options, dementia progression cannot presently be reversed or cured (Hamdy et al., 2019).

Currently, limited options exist to effectively treat patients with dementia (Hamdy et al., 2019). In 2010, five drug therapies were approved to treat AD (Casey, 2010). These drugs have been approved not to cure or alter the outcome of the disease, but to provide palliative support for its associated symptoms (Qaseem et al., 2008). Despite the approval of these drugs, many criticize their lofty expense, with the medications collectively costing well over \$1 billion per year in the United States alone (Grady, 2007). These drugs have also been scrutinized by the British National Institute for Clinical Excellence (NICE) as being unable to meaningfully improve the quality of life for people

with dementia or delay transitions to skilled nursing facilities despite their massive costs (Casey, 2010). While a new drug, Aduhelm, produced by the company, Biogen, was recently approved by the Federal Drug Administration (FDA) to treat AD (Marx, 2021), this drug is also being heavily scrutinized. Recent reports have questioned the FDA's accelerated approval for this drug despite the overwhelmingly negative opinions and subsequent resignations of members of the Peripheral and Central Nervous System Drug Advisory Committee, an organization that cast 10 votes against Aduhlem's approval. (Specter, 2021). With this in mind, it is clear that pharmacological approaches used to manage the symptoms of dementia are not yet confirmed to be ethical, effective, or sustainable. To better promote quality of life in the dementia population, more evidence-based, nonpharmacological approaches to symptom management are needed.

Theoretical Basis

Throughout my Doctoral Experiential (DEx) project, several theories were consulted to shape the framework of dementia-care excellence that was used in both scholarly and experiential activities. The first theory is the Person-Environment-Occupation-Performance (PEOP) model, which is an occupation-based, client-centered approach to care provision. This model is comprised of four intersecting components of activity including the person, the environment, the occupation, and performance (Law et al., 1996). This model provides a basis for understanding how modifications made to the physical environment, including the utilization of music, may impact an individual's performance while completing occupations.

Another theory that was referenced throughout this project is that of habilitation therapy, which emphasizes maximizing the individual's functional independence at their current level, rather than attempting to rehabilitate them to a higher level (Reia, 1999). This theory provides a reference for maximizing functioning through the use of modifications to the physical environment and the

promotion of positive emotions throughout the day, as opposed to attempting to rehabilitate lost function.

Two other theories referenced in the context of this project include person-centered care (Kitwood, 1997) and the theory of communicative musicality (Malloch & Trevarthen, 2009). Person-centered care can be best described as a philosophy of care built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship (Fazio et al., 2018). This theory, originally proposed by Kitwood (1997), suggests that any utilization of a personalized approach in dementia care may enhance overall occupational performance. With the theory of communicative musicality, music is considered to be an effective medium through which all people, including people with dementia, can communicate (Malloch & Trevarthen, 2009). Consideration of this theory in the context of this project suggests that utilizing music to accompany tasks like self-feeding may provide individuals with dementia an alternative method of communication.

Purpose

The purpose of this Doctoral Experiential project is to explore and understand how person-centered modifications of the physical environment, including the use of music, can be utilized to help promote success during self-feeding for individuals with dementia.

Doctoral Experiential Project Overview

Over the past 14 weeks, I completed my DEx project at Rockridge Retirement Community, which is located in Northampton, MA. Rockridge is an assisted living community with four different neighborhoods within. Each neighborhood being is designated to accommodate different types of residents and their unique needs. The first neighborhood is traditional independent and assisted living, which consists of 30 apartments and 12 connected cottages with 24-hour licensed staff available to help if

assistance is needed. The second neighborhood at Rockridge is Violette's Crossing, an assisted living arrangement catered towards individuals with moderate-income (Rockridge, 2021). Next, the L4 rest home neighborhood is designed as a congregate living area for those who would benefit from the provision of three meals a day and assistance with certain tasks like laundry or medication management; however, this area cannot accommodate residents who require skilled nursing care. The final neighborhood at Rockridge is the Gardens Memory Support. This area is a secured neighborhood that is specifically designed for those with memory challenges. While residents in this neighborhood may have significant memory difficulties, Rockridge does not provide skilled nursing care, such as the administration of medication. If a resident at Rockridge needs this level of care, they may privately pay for an outside care partner to come in and provide it. The Gardens neighborhood is where both my experiential and scholarly projects were based.

Guiding us through our Doctoral Experiential work, my group was extremely lucky to have Dr. Marilyn Micka-Pickunka, or Dr. MMP, as our site mentor. Dr. MMP is a Doctor of Occupational Therapy who also currently serves as the Interim Director of Clinical Education at Rockridge. Additionally, Dr. MMP is the founder of 'Still Me Dementia Care', a private company that Dr. MMP founded in hope of promoting person-centered dementia care on a larger scale. With Dr. MMP's guidance, my group members and I have been able to participate in several experiential activities as well as put together scholarly projects that center around promoting dementia care excellence.

Community Experiential Activities

During the first few weeks of the DEx at Rockridge, our first task was to conduct a needs assessment (see Appendix A) with Dr. MMP and other Rockridge staff members. The purpose of this was to help my group members and I understand the overarching needs of 'The Gardens' neighborhood at Rockridge. This needs assessment was completed via an unstructured Zoom meeting where we met with various key players at Rockridge. Additionally, the information provided by Dr. MMP also supplemented many areas of the needs assessment. The first need that we identified through the needs assessment

process was for an update of the existing training modules that were being used to train new Rockridge staff on dementia care. The original training modules were produced by the Alzheimer's Association and are utilized by different assisted living and skilled nursing facilities nationally. Despite the original training modules being rich in content, our needs assessment revealed that Rockridge staff, including Dr. MMP, felt that the existing modules were incomplete, outdated, and uninteresting. Dr. MMP also noted that the modules could use updates to promote increased instances of cultural inclusion and evidence-based practice. To meet this need, my group's first experiential activity was to edit all nine modules of the Alzheimer's Association training curriculum. During this time, we collaborated as a group to edit the modules and include more media within them such as tik-toks, videos, and images. Additionally, our group developed and utilized a curriculum matrix to go along with each module to help restructure the module's content in a manner that better flowed and reflected adult learning theory. As an individual, I was responsible for making the initial edits on module 5 (sample in Appendix B) and a portion of module 6 (sample in Appendix C) of the Alzheimer's Association training modules. Additionally, I was also responsible for creating curriculum matrices for both of these modules (Appendix D). In the modules I edited, I also developed scenario cards that could be utilized as an interactive way for staff involved in the training to practice new skills (Appendix E and F). Once each member of our group edited our respective modules, we then proceeded to collaboratively edit each module as a group two more times before passing them off to Dr. MMP to utilize with staff members. In addition to the creation of the training modules, Courtney helped to spearhead the development of an interactive workbook on Canva that was designed to accompany the training modules that our group created. As a group, we created a person-centered care self-discovery activity (Appendix E) within the workbook that would be utilized as a thought-provoking introduction to each module. This workbook also included many fill-in-style questions and was utilized to help make the staff training more interactive.

Once these training modules and the workbook were collaboratively edited, my experiential activities shifted to being on-site at Rockridge. A second need identified during our needs assessment was an increased focus on the facility's 'Successful Dining' program. Before we arrived at Rockridge, Dr.

MMP had collaborated with dining services to develop a successful dining program in which increased attention was placed on promoting independence with feeding for individuals residing in ‘The Gardens’. Despite its initial success, the program was slowly forgotten with Covid-19 protocols and other distractions. To help bring this program back, one of the first experiential activities that I completed onsite was to screen all of the residents for the presence of any potential feeding difficulties. Once this initial screen was completed, four residents were identified as having difficulty with self-feeding and were recruited to participate in the successful dining program. To better understand the baseline feeding abilities of the residents, two tools were utilized. The first is an observational tool I created using the Person-Environment-Occupation-Performance (PEOP) model (Appendix G). This observation tool was designed to collect generalized observations as they pertained to aspects of the PEOP model. The second tool was an assessment called the Dementia Mealtime Assessment Tool (DMAT) (Appendix H), which looked at the frequency with which specific types of difficulties with self-feeding occur.

Once data was collected from these assessment tools, my group and I spent the next few weeks trialing several interventions to promote success with self-feeding for each of our four participants. These interventions focused primarily on modifications of the physical environment such as adjusting resident positioning, plating of food, and the social context of the meal. With the help of Dr. MMP, these focus areas were labeled as the 3 P’s: ‘Positioning, Plating, and Positivity’. As we became more confident with the interventions that we noticed were working with each individual, the next experiential activity I completed at Rockridge became staff education. While I was onsite, my group members and I worked to collaborate with staff who work on The Gardens and allow them to share their experiences of success or difficulty. We also wanted to encourage the staff to continue to promote any of the successful intervention strategies that we had discovered. One way that we accomplished this was by facilitating Team Huddle meetings in which we would encourage staff to share their feelings about how things were going with the Successful Dining program. Once the staff had the chance to speak, we would present our observations and collaboratively work as an interprofessional team to develop an action plan for the coming days. With Dr. MMP’s guidance, we made a point to empower staff members by seeking their opinions and ideas and

then encouraging them to serve as change agents during mealtimes. In addition to these instances, I also participated in other experiential activities where I advocated for the role of occupational therapy and educated a group of staff or family members about the value of the Successful Dining Program. I was able to do this by speaking to an orientation group at Rockridge, talking to family members of residents who live on the Gardens, and speaking at Rockridge's Annual Board Meeting.

In addition to these focused experiential activities, being onsite at Rockridge allowed me to participate in several other onsite activities that deepened my understanding of dementia-care excellence. Throughout my time at Rockridge, I had the opportunity to participate in three life enrichment activities including morning circle, show and tell, and a music therapy performance. During these instances, I had the opportunity to assist with the facilitation of these activities. In addition, I also assisted Shannon with the facilitation of a 'Favorite Family Recipes' group in the Gardens. The intention of this group was to create a space where the various cultural heritages and ethnicities of residents could be celebrated by making a recipe as a group that had cultural significance to a new resident each week. As we began to plan for these groups, we realized that foods representing ethnic diversity often require more challenging recipes. Since another important goal of the group was to involve residents in the cooking or baking associated with the recipe, we found that we had to grade down more challenging recipes to make them feasible for resident participation. When we wanted to make tapioca pudding that was an important recipe to a resident, for example, we had to decide to instead use instant pudding because the practicalities of using a stove and constantly stirring it were too challenging for the residents we were working with. While we could have made the pudding, it would not have been able to involve the resident's contributions as much as we had wanted it to. Despite these setbacks, we held two successful cooking/baking groups and learned a lot about how to upgrade and downgrade tasks for individuals with dementia.

The final experiential activity I participated in while at Rockridge was collaborating with Josh, a musician who serves as a life enrichment program staff member. In our collaboration, I was able to play my flute with his accompaniment on piano or guitar for the residents on the Gardens. Having already

formed relationships with many of the residents, this activity was extremely meaningful to me. I love being able to see the smiles on the residents' faces as they sing along to songs they recognize. Even when the residents fall asleep during the performance, I know that the music is bringing them peace at that moment. Going forward, I have partnered with Josh and will be returning on a biweekly to monthly basis while I am in the area to play my flute for the residents on The Gardens.

Scholarly Component

Introduction:

For the scholarly component of my Doctoral Experiential project, I was initially interested in exploring the potential uses and benefits of music with people who have dementia. Coming into this DEx project, I watched a documentary called *Alive Inside* (Rossato-Bennet, 2014) that largely inspired my research interests. In this documentary, I was amazed by the incredible impact that music had on each of the featured individuals with dementia. Inspired by this film, I wanted to further explore these ideas in my DEx project at Rockridge Retirement Community. A complete copy of my scholarly paper is appended to this document (Appendix I).

Purpose:

The purpose of this study is to explore and understand how personalized music impacts occupational engagement during mealtimes for individuals with dementia. This research will contribute to the growing body of literature dedicated to the development of non-pharmacological treatments for people with dementia. Additionally, this research draws on Boyer's Models of Scholarship and their models of scholarship of teaching and learning (Boyer, 1996). In this model, emphasis is placed on the search for innovative approaches and best practices to develop skills and shared knowledge (Boyer, 1996). With this in mind, a secondary purpose of this project is to contribute to the understanding of best practices for promoting dementia-care excellence in the context of the intersection of self-feeding and dementia-care excellence.

Literature Review:

In my literature review (Appendix J), I explored several current research articles that have looked at the use of music with people with dementia. I split my findings into articles that generally looked at the association between music and dementia and then articles specifically looking at personalized music with people who have dementia. Overall, I found many articles that suggested that music can be an extremely valuable tool to promote several positive outcomes for people with dementia. One example of this is an article written by Gómez & Gómez (2017), that looked at 42 patients who had mild to moderate Alzheimer's disease and underwent six weeks of music therapy. Upon the completion of the music therapy intervention, significant improvements in memory, orientation, depression, and anxiety in both mild and moderate cases were discovered. In moderate cases of Alzheimer's disease, an improvement in delirium, hallucinations, agitation, irritability, and language disorders were observed (Gómez & Gómez, 2017). These findings were observable after only four music therapy sessions, indicating the overall positive impact that music therapy can have on individuals with dementia.

In addition to this finding, another article that I drew immensely from during the construction of my scholarly project was an article written by Cohen et al. (2020). This article was especially helpful because its outcome measures included aspects of self-feeding such as the amount of food consumed and weight gain or loss. The objective of this study was to explore whether listening to personal music could ease dysphagia and related eating problems (Cohen et al., 2020). In this study, four residents who had difficulty swallowing or feeding themselves were identified and asked to participate. Before the personalized music intervention, the average food intake for the four subjects was 41.4% of their meals. After researchers provided residents with a personalized playlist a half-hour before dinner time, the average food intake increased to 71.4% (Cohen et al., 2020). This statistically significant increase was supplemented by team observations of improved swallowing and nutritional status and decreased choking incidents during mealtime. It was also noted that the participants' weights stabilized, the participants had less need for speech interventions or thickened liquid, and their overall quality of life was enhanced (Cohen et al., 2020). While the sample size was admittedly small in this study, the findings of this study

provided evidence for the use of personalized music as a way to improve the quality of life for individuals with dementia. Because this study included a very detailed and reproducible methodology, this article provided me with a greater understanding of how I could conduct a study regarding personalized music with people with dementia.

Project/Study Question:

1. How does the use of personalized music impact an individual with dementia's engagement during mealtimes?

Methodology:

During my time at Rockridge, there were many limitations in my capacity to conduct a full scholarly project. To adapt to these challenges, my project utilized a descriptive observational study design in which the mealtime engagement of four residents with dementia was observed during a personalized music intervention at lunch. Participants for this project were recruited using purposive sampling techniques. To begin the recruitment process, we observed the 14 prospective participants during breakfast and lunch to observe which residents demonstrated the most difficulty with self-feeding from an outside perspective. These observations were supplemented by resident care assistants (RCAs) on The Gardens who were asked to identify residents they perceived as having significant difficulty with self-feeding and/or often required 1:1 assistance during mealtimes. Of the 17 residents currently residing in The Gardens at Rockridge, four residents were recruited to participate in this study (n=4).

As mentioned in the experiential component of my project, the DMAT was initially administered to the participants in the hopes of collecting baseline data about the self-feeding ability of residents. After administering this assessment to each of the residents, it was decided by the researchers that it was not appropriately measuring intended outcomes of engagement in self-feeding. After deciding this, the family members of participants, as well as care partner staff at Rockridge, were reached out to via e-mail to collect personalized music recommendations from staff. A list of music ranging from 3-10 songs was compiled for each resident based on these responses and the music was then transferred to an MP3 player for use with each of the four residents.

Once a personalized music playlist was compiled for each of the four residents and loaded onto an MP3 player, the music was presented to each resident immediately before their lunch using headphones. The time of presentation of the headphones ranged from 10 minutes before to immediately at the start of the lunchtime meal. After listening to 10 minutes of music, the researcher gently removed the headphones from each resident, allowing them to continue to eat their lunch. One resident took the MP3 player into her lap when it was presented to her and listened to the music throughout her entire meal. This individual did not change the songs herself but instead listened to the music as it shuffled in her playlist. Each resident was presented with their MP3 player during two separate instances, with both instances being at lunchtime. Video recordings were taken of the residents during the second trial with the music for later data analysis.

Data Analysis:

To analyze each of the resident's observable responses to their personalized music playlist, the recorded video clips were compiled into one longer video. These videos were then overlaid with the music that the individual was listening to at the time of the video's recording. The purpose of this was to allow the reviewers to be able to hear the music that each resident would have been listening to at the time of the recording. These video edits were completed on a laptop using the free video editor, Open Shot. Once the videos were edited, their total length ranged from 1 to 3 minutes. This discrepancy in duration was based on the availability of video footage. Next, each edited video was labeled with each resident's initials to maintain confidentiality and uploaded to a folder with restricted access on Google Drive. Once the videos were edited and ready for viewing, a team of 7 reviewers was assembled to review the video of each resident listening to their music and then extract relevant themes. The team of reviewers consisted of six occupational therapy students and one occupational therapy educator who were hand-selected by the lead researcher. Six of the reviewers had less than three years of clinical experience in the field of occupational therapy and one reviewer had more than 15 years of experience in the field. The reviewers participating in this data analysis

consisted of a mixture of individuals who *had* and *had not* worked with the participants. One of the reviewers had interacted with the residents in person one time, one of the reviewers had interacted with the residents more than one time, and one of the reviewers had close, regular contact with the residents. The remaining 4 reviewers had never personally met any of the residents featured in this study. The lead researcher in this project did not serve as a reviewer during this component of the project. The purpose of this variation in reviewer composition was to diminish the effect of reviewer bias when analyzing the selected videos.

Once the team of reviewers was formed, a link to a google form was sent to the e-mail addresses of all reviewers. This google form included a paragraph of instructions, as well as a link to a folder on Google Drive that contained the four videos that the reviewers needed to view and respond to. To maintain the confidentiality of the participating residents, reviewer access to the Google folder was removed following the completion of data analysis. Once the reviewers opened their google form, they were asked to record three to ten of their observations of the resident's overall response to their personalized music including their mood, demeanor, and verbal/nonverbal expressions. Reviewers were instructed to record this data anonymously in the corresponding text boxes on the supplied Google Form using sentences of no more than five words for each observation. The purpose of this was to encourage reviewers to form short and succinct observations about each resident's response to music. Reviewers were also asked to answer two demographic questions after submitting their responses. These questions included their role in the field of occupational therapy and their years of clinical experience in the field of occupational therapy.

Once all reviewers completed their observations on the associated Google form, the primary researcher analyzed the collected data using content analysis. During the data analysis, I coded for the frequency of concepts at the word sense level, meaning that I determined the overall frequency of concepts in the qualitative data by extracting the word or word sense meaning from words and phrases.

To guide the process of the content analysis, an observational checklist titled ‘Mealtime Engagement Observation Checklist’ (see as part of Appendix I) was created. Using ‘a priori’ hypotheses, I hypothesized the most likely responses that residents would have to the personalized music intervention and recorded them in the form of a checklist. These hypotheses were broken down into five categories including Facial Expressions, Interaction with Food, Interactions with Others, Body Positioning, and Body Movements. Within each of these five categories, more specific observations relating to each category were listed. An ‘Other’ box was included in each category on the checklist to allow for the introduction of interactive categories and concepts.

Once the reviewers input their responses to each of the four videos on Google Forms, their data was recorded and initially interpreted by Google Forms. To make the data easier to read and understand, I transferred the data from Google Forms into a separate Google Sheet and scanned the sheet for any outlier information that should not be further analyzed. If a phrase was inputted twice by one reviewer, for example, the second entry was struck so as not to alter the results. Additionally, if a reviewer inputted information that was not about the featured resident or their response to the music (as the instructions on the Google Form indicated), then that data point was not included in data analysis.

Once all data was inputted in the updated Google Sheet and outlier data were eliminated, I created an additional Google Form to further analyze the data. The purpose of this form was to serve as an interactive version of the ‘Mealtime Engagement Observation Checklist’ so that the data collected from reviewers could directly be analyzed via the charts and graphs that Google Forms creates. Once all data was inputted, the frequency of each documented observation was recorded.

Results:

After accounting for repeated data points and data that did not specifically pertain to the resident’s response to the music as instructed, a total of 128 observations were collected from the team of seven reviewers. The following data details the combined number of observations for all reviewers and all

residents. Overall, the most frequently observed category of responses was facial expressions, with 66 total facial expressions being recorded by the reviewers for all residents. The least frequently observed category was body positioning, with only five observations falling in this category for all residents. In between, there were 20 observations of interactions with others, 22 observations of body movement, and 15 observations of interaction with food (see Image 1 below).

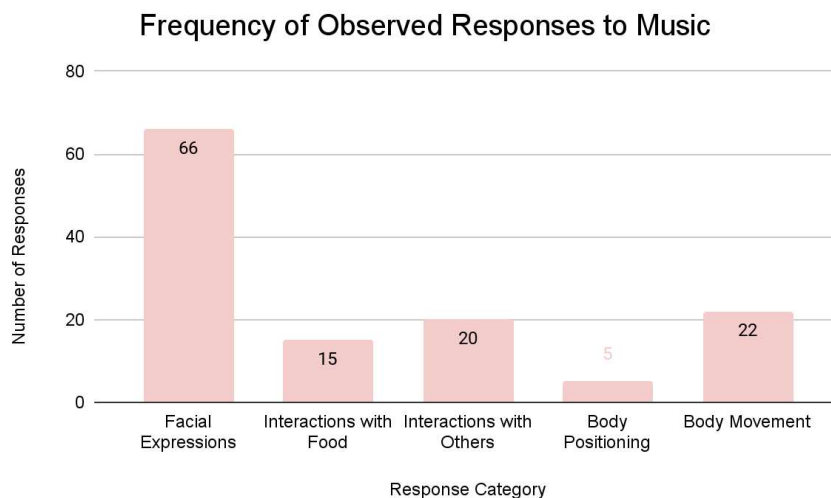


Image 1

Within each of the five larger categories describing the residents' responses to the personalized music intervention, the frequency of observations of each subcategory was also recorded. Within the category of facial expressions, for example, the most commonly observed facial expressions were relaxed, smiling, and happy (see Image 2). The subcategories of facial expressions including frowning, scowling, anxious, fearful, and bored were not observed or recorded by any of the reviewers. In the category of facial expressions, the "Other" section of the checklist was utilized to include 'closed eyes' and 'interested' facial expressions as observations. A closed eye facial expression was observed five times and the 'interested' facial expression was observed three times.

In the category of interactions with food, the subcategories 'interacting with utensils' and 'bringing food to mouth' were the most commonly observed. Both of these subcategories were observed five times (see Image 2). All four of the subcategories of interactions with food were observed at least once. In the category of interactions with others, eye contact was observed 11 times, and talking and

smiling *at* someone were both observed seven times (see Image 2). In the category of body positioning, there was the least number of total observations of any category, with only five total observations. The most common observation within the category of body positioning was ‘hand to face’ (see Image 2). Again, this observation was added to the original checklist via the “Other” category. Finally, in the category of body movement, the most commonly observed body movement was ‘nodding head’, which was observed a total of 11 times (see Image 2). ‘Nodding head’ was not included on the original checklist and was another example of an observation that was added via the “other” category.



Image 2

Between each of the five larger categories of observations, four individual observations were most frequently observed. These most common observations include a relaxed facial expression, which

was observed 20 times, eye contact and nodding head, which were both observed 11 times, and a smiling facial expression, which was observed eight times (see Image 3).

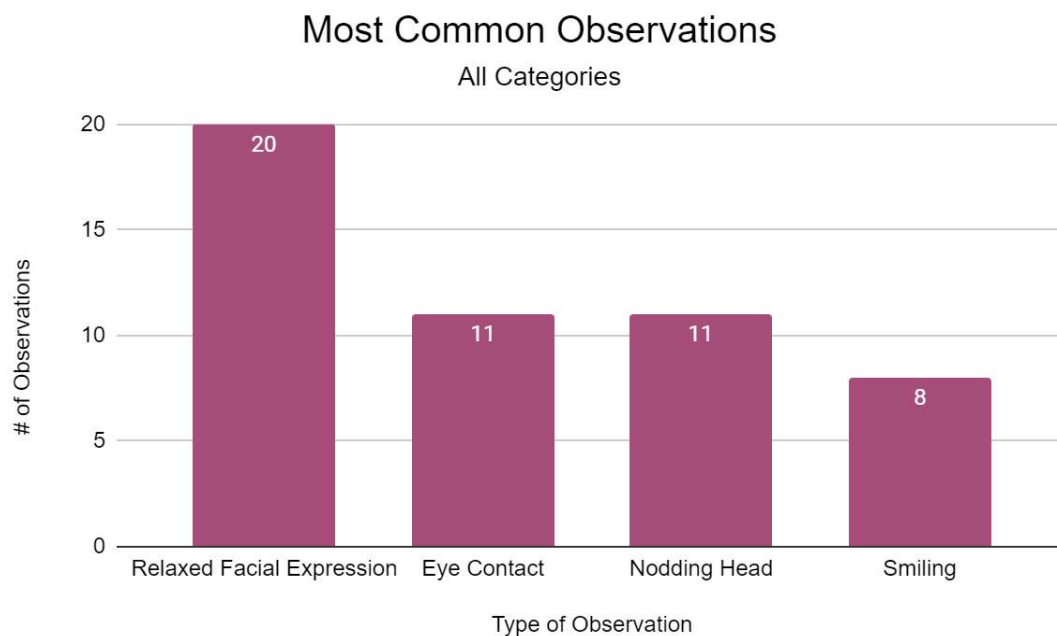


Image 3

Discussion:

Introduction

This study aimed to understand how personalized music impacts occupational engagement during mealtimes for individuals with dementia to contribute to the growing body of literature on non-pharmacological treatments for people with dementia. In this observational study, a team of seven reviewers each independently watched four videos of residents living on ‘The Gardens’ listening to a personalized music playlist. During this time, the reviewers all recorded their observations of the residents’ responses to the music. This data was then analyzed via content analysis to determine the most frequent observations associated with occupational engagement during mealtimes.

Occupational engagement can be described as a sense of involvement, choice, and positive meaning while performing an activity or part of an activity (Townsend & Polatajako, 2007). Overall, the most common observations reported as residents listened to their personalized music playlists included a

relaxed facial expression, eye contact, nodding their head, and smiling (see Image 3). While on an individual level each of these observations may not describe occupational engagement, together these expressions meet many components of the definition of occupational engagement. A relaxed facial expression and smiling during an occupation, for example, are highly indicative of positive meaning. Eye contact and head nodding, on the other hand, are indicative of both involvement and choice in the individual's participation in occupation. In addition to these overall most common observations, there were also 13 observations reported by the reviewers describing residents as interacting with utensils and items on their table, as well as bringing food to their mouths. These findings are again indicative of engagement during mealtime for the observed residents. This number may be skewed left due to the timing of the video recordings, which will be discussed further in the limitations section.

In addition to connections to occupational engagement, the overarching themes observed in this study are largely positive. One particularly interesting finding is the extremely high volume of facial expressions observed during this study. In total, the reviewers in this study made observations of 66 facial expressions (see Image 1). All of the facial expressions that were reported, such as relaxed, smiling, happy, closed eyes, content, humorous, and interested, are indicative of positive emotions (see Image 2). During data analysis, the checkboxes associated with facial expressions such as frowning, scowling, anxious, fearful, and bored were not observed or recorded by any of the reviewers. This suggests that, above all else, the personalized music that was presented could evoke a sense of positive emotion in all four residents. This idea is very much in line with some of the tenets of habilitation therapy (Reia, 1999), which will be further discussed in the implications section of this paper.

In addition to these findings, many of the facial expressions, such as smiling, humorous, and interested, align with similar observations in the category of interactions with others. These observations include 11 observations of eye contact and 7 observations of both talking and smiling. The observations in both of these categories together demonstrate the presence of social participation. Social participation is considered by the American Occupational Therapy Association to be a valued occupation that involves social interaction with others, including family, friends, peers, and community members, and that

supports social interdependence (AOTA, 2020, S34). Thus, these experiences of positive social interactions demonstrate occupational engagement in the occupation of social participation for the participants in the study.

Implications

Overall, the results of this study reveal that the use of personalized music can unanimously produce positive emotions while minimizing negative emotions. As Paul Reia points out in his work on habilitation therapy, (1999), eliciting positive emotions is an essential part of success in daily occupations with people who have dementia. While people with dementia will likely forget the song that they listened to or who they listened to the music with, the positive emotions that personalized music from their past elicits will likely stay with an individual throughout the day. This is likely because the areas of the brain associated with dementia remain relatively untouched by dementia, making it possible for those with dementia to generate lasting positive or negative emotions.

Additionally, the findings of this study also indicate that personalized music can promote a positive experience of social participation in this population. Data analysis revealed many observations of residents interacting with the researcher facilitating the music experience including eye contact, smiling, and talking. While these interactions do require a second person to work in future scenarios, this finding does indicate that personalized music provides a medium through which people with dementia can engage in the occupation of social participation.

Initially, a primary interest of this study was to see how personalized music could assist with all aspects of occupational engagement during mealtimes. While the results of this study have largely pointed to several positive impacts associated with the use of personalized music, there were limited observations regarding the actual consumption of food. The primary reason for this has to do with limitations associated with the times in which we were permitted to record videos of residents, so that much of the time that the personalized music videos were recorded, the residents did not yet have a meal in front of them. This, of course, makes observation of mealtime engagement difficult. Despite this difficulty, the reviewers were still able to note 13 instances of residents interacting with utensils or items on the table, as

well as bringing food to their mouths. Had the timing of the videos been slightly altered, it is likely there would have been many more instances of food interaction observed by the team of reviewers. Going forward, a more specific look into this aspect of the mealtime experience with personalized music would be beneficial.

Limitations

While the results of this observational study demonstrate an overall positive experience associated with the use of personalized music during mealtimes, there are many limitations associated with this study that should be noted. The first, and likely most important, issue in this study was that the method and time frame in which the personalized musical interventions were administered and video recorded were not uniform. This was especially problematic for the data analysis component of this study because the reviewers were only able to view a set point of time rather than being able to see the entirety of the mealtime experience. As a result, reviewers likely did not have the full picture of the personalized music experience based on the clip that was provided. This discrepancy is most obvious in the video recording of J.F., who is very clearly eating her meal while listening to her music. This scene is starkly different from other recorded videos in which the residents do not have access to their meals at the time of recording. Due to the nature of the research team's role as a consultant at Rockridge Retirement Community, the needs of the facility always came first when considering how to conduct this research study. Because of this, the research team often adapted the methodology of this study to limit inconveniences to the site or the residents' daily routines. In future studies, it would be extremely beneficial to replicate this study with a more standardized routine for video recording and providing personalized music interventions.

In addition to this limitation, the method for collecting personalized music recommendations for each resident was also not standardized. Some personalized music recommendations were collected from a resident's family members while recommendations for other residents were collected from staff. As a result, it is difficult to know exactly whether the music that was recommended by staff or family and provided to each resident included songs that were truly meaningful to the residents.

Another limitation in this study is that there was no control group to compare to. In the context of this study, it would have been very beneficial to have a control group of individuals with dementia who did not receive a personalized music intervention. This could have been done by first observing the residents with dementia without the use of personalized music for some time prior and then providing personalized music for the same amount of time. It also could be done by splitting the residents into two groups, with one being the control group and the other being the treatment group. To further develop a correlational or causal relationship between personalized music and occupational engagement, a more standardized approach with a control group would be beneficial. Along with this idea, a larger sample size than four residents would also help make the data collected in this study be more generalizable to the general population.

The next limitation in this study was that the observational responses were not able to be separated by residents during data analysis. This meant that all of the observations that were documented by all residents were lumped together into a larger category. While this does provide helpful data on the overall impact of personalized music on mealtime engagement with residents, it made it challenging to see individual discrepancies that could be beneficial in understanding why some individuals react differently to personalized music than others. During direct observation by the researchers, for example, it was clear that one resident was responding to the music in a much different way than her three counterparts. Rather than tuning in to the music, this particular resident became extremely relaxed and sleepy during her music intervention. While this was much different than how others responded, this discrepancy was not directly accounted for in data analysis. Instead, her response was lumped into the overall response of the group which may alter how the data can be utilized in the future.

Another significant limitation in this study is the presence of many confounding variables during mealtimes. Many of these confounding variables are associated with the 'Successful Dining' program that the researchers were concurrently conducting with the same residents while onsite at Rockridge. The premise of the 'Successful Dining' program was to implement modifications to the physical mealtime environment such as a resident's positioning at the table or the way that their food is plated. These

changes in the mealtime experience served as confounding variables that made it difficult to determine whether any observable changes are a result of the new plating and positioning strategies or the personalized music intervention.

In all, this study has many definitive limitations that limit the capacity for any results associated with this study to be generalized to other settings. While this study followed an observational descriptive design, a case study methodology may reveal important findings that would further enhance this body of research.

Additional Scholarly Work:

In addition to the literature I compiled as part of my literature review, a secondary scholarly project I completed at Rockridge was to create a critically appraised paper (CAP) that is more detailed and explains the distinct role that music can play with individuals who have dementia. This paper (Appendix I) was suggested by Dr. MMP as a way to communicate to stakeholders at Rockridge how music can contribute to positive outcomes for the residents living on The Gardens. In addition to this, I also created a more user-friendly version of this paper in the form of a tip sheet (Appendix J) that can be distributed to staff members at Rockridge who are interested in learning more on this topic.

Learning Outcomes

At the beginning of this doctoral project, I compiled a list of 12 learning objectives (Appendix K) that I hope to accomplish by the end of my experience. After completing this doctoral experiential project, I have acquired several hard and soft skills associated with these learning objectives. In this section, I will be discussing three of the most overarching learning outcomes and how they relate to the 12 learning objectives I initially created. Overall, one of the most meaningful learning outcomes for me has been learning how to utilize person-centered care practice with individuals who have dementia. This learning outcome directly aligns with learning objectives 9 and 10, which talk about understanding how person-centered care can contribute to positive outcomes as well as how to use person-centered care practices. When I first met Dr. MMP, I had an idea of what person-centered, or client-centered, practice was, but I

had not thought about this care practice in the context of dementia care. Throughout the DEx, I was able to not only observe Dr. MMP employ a person-centered approach to dementia care, but I was able to research and practice it regularly. After reading about and understanding person-centered practices, I had the opportunity to use these skills myself to help promote resident engagement in tasks such as self-feeding. Being able to practice helped me learn these skills in a way that will remain with me throughout my future career as an occupational therapist.

Another learning outcome resulting from this DEx is my increased confidence in and understanding of interprofessional care practice. This outcome aligns with learning objectives 1, 5, and 12 that are stated in my learning and evaluation plan. Throughout my occupational therapy education, interprofessional practice has always been emphasized. While I understood its inert value, I sometimes thought that the goal of interprofessionalism was more idealistic than practical in the current healthcare environment. Despite these initial beliefs, Dr. MMP helped to demonstrate both why interprofessionalism is important, as well as the best ways to promote it. One extremely helpful tip that I learned from Dr. MMP during this experience is the importance of giving ownership to all members of the interprofessional team. To encourage all individuals to uphold person-centered care practices, for example, Dr. MMP made sure to ask for input from other staff at Rockridge and give them ownership of any successes that were experienced. Going forward, I have a much better understanding of how to encourage others to get on board with new initiatives.

A final learning outcome of this DEx experience was learning the practicalities of working in a facility as a consultant. Coming into this DEx, if I saw a consultant job opening for occupational therapy, I would quickly scroll past it because I had no idea what it meant to be a consultant in the field of occupational therapy. Now that I have had the incredible opportunity to observe Dr. MMP as a consultant at Rockridge, I feel much more confident in my ability to serve in this role. Within this learning outcome, I feel that I have achieved learning objective 1 which discusses being able to document a needs assessment and plan a successful project based on that assessment. As part of my experience with Dr. MMP, I have realized that serving as a consultant means putting my ideas aside and considering first the

needs of the community that I am assessing. Experiencing the needs assessment process at Rockridge has been very helpful for understanding this and learning how to apply it to other settings as well. This learning outcome also relates to learning objective 4, which discusses the ability to understand diverse systems of service delivery, as well as articulate a sensitivity to cultural, linguistic, and other diversities and disparities. While working in the ‘consultant’ role, I had to practice to become more aware of the technicalities of how care was able to be given and received at Rockridge. While my group and I often had lofty ideas of how things we wanted to implement and change, it was important to realize the context of the facility and how that impacts our ability to implement new ideas. I think this insight will help to prepare me for the inevitable complexities of various workplaces as I move forward in my career.

Comments and Additional Information

About Rockridge Retirement Community

Rockridge Retirement Community is an independent and assisted living community located in Northampton, MA. Rockridge is a part of Deaconess Abundant Life Communities, a larger organization that aims to provide older adults with an abundant life that is rich in family, friends, caring, comfort, and peace of mind (Deaconess Abundant Life Communities, 2021). Rockridge is a community with four different neighborhoods within it which each accommodate different groups of older adult residents. The first neighborhood is traditional independent and assisted living, which consists of 30 apartments and 12 connected cottages with 24-hour licensed staff available to help if assistance is needed (Rockridge, 2021). Another neighborhood at Rockridge is Violette’s Crossing, an assisted living arrangement catered towards individuals with moderate income (Rockridge, 2021). Next, the L4 rest home neighborhood is designed as a congregate living area for those who would benefit from the provision of three meals a day and assistance with certain tasks like laundry or medication management; however, this area cannot accommodate residents who require skilled nursing care. If residents are experiencing a transition in their

ability level and are finding themselves requiring skilled nursing services, Rockridge helps guides these individuals towards a transition to another facility that can accommodate these needs.

The final neighborhood at Rockridge is the Gardens Memory Support. This area is a secured neighborhood that is specifically designed for those with memory challenges. The neighborhood is clean and bright, and there is a beautiful, enclosed outdoor garden space within the neighborhood. The Gardens is primarily staffed by resident care assistants (RCA's) who assist with daily resident care. In addition to the RCA's, there is also a head nurse who serves as the service plan coordinator for the neighborhood. There also a number of life enrichment programming (LEP) staff who work on The Gardens and lead movies, crafts, games, and musical activities. While individuals in the Gardens may have significant memory difficulties, Rockridge does not provide skilled nursing care such as the administration of medication. If a resident at Rockridge needs this level of care, they may privately pay for an outside nurse to come in and provide care. If a resident cannot afford to do so, they and their families may need to consider alternative living arrangements such as a skilled nursing facility. The Gardens is the neighborhood in which much of this project is centered. The Gardens neighborhood is comprised of three long hallways with suites for the residents, as well as various areas for communal gathering.

A Message of Thanks

As I finish my 14-week DEx project at Rockridge, I find myself filled with gratitude for the various key players who have helped me to get through this process. Firstly, I have to thank Dr. MMP for being the most amazing DEx mentor that I could have ever asked for. Dr. MMP is a kind, energetic, and truly good human being who has dedicated herself to dementia care excellence. Her leadership in the field of dementia care practice is unparalleled and her role modeling has forever changed the way that I plan to work in the field. Secondly, I want to thank Rockridge Retirement Community for taking my DEx group on during the Covid-19 pandemic. I also want to thank Rockridge staff for allowing us into their daily routines and working with us to promote dementia-care excellence. I want to give a special shout-out to Josh, from the life enrichment program who has helped me get back into playing my flute and helping me use music to provide therapeutic calm and enjoyment to the residents on the Gardens. To Shannon,

Courtney, and Alexa – thank you for being part of this project with me over the past two years. I have gotten to know you all very well and am fortunate for our lasting bond as we have struggled over the creation of powerpoints and the confusion that can come with the DEx. Finally, I want to thank each of the residents I worked with on ‘The Gardens’. Thank you for letting me into your life, for trusting me, for smiling with me, and for being you. I am especially thankful to Joanne Freyer, who passed away during my time at Rockridge, but will forever remain in my heart.

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Appendices

APPENDIX A: Rockridge Retirement Community Needs Assessment

Name of Community:

Rockridge Retirement Community

25-37 Coles Meadow Road

Northampton MA 01060

Description of Community:

Rockridge Retirement Community is an Assisted Living Residence (ALR) located in Northampton, MA. Rockridge is a part of Deaconess Abundant Life Communities, a larger organization that aims to provide older adults with an abundant life that is rich in family, friends, caring, comfort, and peace of mind (Deaconess Abundant Life Communities, 2020). Rockridge is a community with four different neighborhoods within it which each accommodate different groups of older adult residents. The first neighborhood is traditional independent and assisted living, which consists of 30 apartments and 12 connected cottages with 24-hour licensed staff available to help if assistance is needed (Rockridge, 2021). Another neighborhood at Rockridge is Violette's Crossing, an assisted living arrangement catered towards individuals with moderate-income (Rockridge, 2021). Next, the L4 rest home neighborhood is designed as a congregate living area for those who would benefit from the provision of three meals a day and assistance with certain tasks like laundry or medication management; however, this area cannot accommodate residents who require skilled nursing care. If residents are experiencing a transition in their ability level and are finding themselves requiring skilled nursing services, Rockridge helps guides these individuals towards a transition to another facility that can accommodate these needs. The final neighborhood at Rockridge is the Gardens Memory Support. This area is a secured neighborhood that is specifically designed for those with memory challenges. While these individuals may have significant memory difficulties, Rockridge does not provide skilled nursing care such as the administration of

medication. If a resident at Rockridge needs this level of care, they may privately pay for an outside nurse to come in and provide care. If a resident cannot afford to do so, they and their families may need to consider alternative living arrangements such as a skilled nursing facility. The Gardens is the area around which most of our group's attention will be centered. Of note, Rockridge accepts private pay, long-term care insurance, veteran's benefits, and state subsidies as payment for stays at their facilities (Rockridge, 2021). A particular aspect of Rockridge that makes it unique from other similar facilities in the area is the use of Still Me Dementia Care at the facility.

Community Needs

At the start of our time at Rockridge, an initial needs assessment was conducted via virtual and in-person conversations with a handful of staff members. These staff members include Dr. Marilyn Micka-Pickunka, an occupational therapist who serves as the Interim Director of Clinical Education at Rockridge, Nicole Gochinski, the service plan coordinator on the Gardens neighborhood, members of the Life Enrichment Program at Rockridge, and Scott Samuelson, the Director of Dining Services at Rockridge. From our conversations with Dr. Micka-Pickunka and Nicole, we discovered the first primary need of the facility is to help revitalize the existing training modules for all staff working in or around the Gardens. The current training curriculum at Rockridge has been described by staff members as incomplete, outdated, and uninteresting. In order to further understand the perspectives of Rockridge staff care partners on the current training curriculum, a focus group was conducted by Dr. Micka-Pickunka to help develop a better understanding of staff learning styles and needs. A thematic analysis of staff responses revealed two major themes. One was that staff were looking for more fun and engaging training sessions that involved collaborative conversations. The second theme was that staff members found the currently-utilized trainings to be extremely repetitive, with the same content being constantly delivered in the same manner. From this information, it is evident that an updated and more engaging training curriculum is needed. The training curriculum that Dr. Micka-Pickunka would like us to base our revisions on was produced by the Alzheimer's Association and consists of nine training modules that are

centered around the provision of person-centered care. Dr. Micka-Pickunka is particularly interested in updating these modules to include multimodal training techniques that are more reflective of current evidence-based practice associated with the provision of person-centered care. Some of the suggested multimodal components suggested include the use of audio, video, Tik-Toks, and photos of residents.

When speaking with Nicole, another important point brought up was that staff may also benefit from further education and conversations about resident transitions as they either pass away or move on to another facility. Nicole noted that it can be quite traumatic for staff to have to say goodbye to residents, but there is often no platform for staff to express their emotions tied to these changes. Nicole reported that it could be beneficial for us to help provide staff with resources and support for instances such as this. An additional need pinpointed by Rockridge staff is the need for a more developed method for staff to utilize in their provision of person-centered care that optimizes occupational engagement. One method of solving this problem that was proposed by Dr. Micka-Pickunka is to further assess each individual's Allen's Cognitive Level (ACL) so that staff may be better aware of the specific needs of each resident. With each resident's current ACL available, staff may be better able to pinpoint the exact type of support residents require to perform functional tasks. Another area of need that Nicole pinpointed is the difficulty that can often be associated with working with the family members on the Garden unit. Dr. Micka-Picunka noted that many families struggle with the transition residents go through as they progress through the dementia disease process from early to mid-stage to late dementia. As a result, there can be conflicts between families and staff as to how to provide the best possible training to residents with dementia. Both Nicole and Dr. Micka-Pickunka agreed that increased communication and collaboration between staff members on the Gardens and resident family members would be helpful.

In addition to the conversations that we had with Nicole, a virtual conversation was also conducted with Scott Samuelson, the Director of Dining Services at Rockridge. The purpose of this conversation was to better understand the ways that we may be of assistance to Rockridge and the Gardens from a dining perspective. After speaking with Scott, we found that there are many wonderful aspects of dining services at Rockridge that are not offered at comparable residential care facilities.

Despite all of the things that Rockridge is succeeding at, the primary need identified from our conversation with Scott is to help reboot the previously initiated Successful Dining Program that was collaboratively developed in the fall of 2020 by Dr. Micka-Pickunka and Scott. Although this program was initially very successful, current videography produced by Dr. Micka-Pickunka has revealed that many of the basic aspects of the program, such as use of high contrast plates and cups, a simple dining room layout, and a verbal introduction of each meal are currently not being upheld as well as they could be. While viewing one video of a resident in particular at her mealtime, it was noted that the resident was being fed rather than participating in the task *with* the staff member. As a group, we viewed this video and noted several areas where we might be able to adjust the environment and approach to facilitate more independence with this task to meet the cognitive needs of the resident. These findings indicate that increased education and carry-over in the area of successful dining are needed at Rockridge.

During our first few weeks at Rockridge, we were able to continue the needs assessment by observing the dining experience on the Gardens unit and screening residents for feeding difficulties. As we observed both breakfast and lunch, 4 residents were pinpointed by the DEX team as having increased difficulty during feeding tasks. These residents demonstrated apraxia, attentional deficits, painful swallowing, and diminished levels of meal completion. Additionally, it was observed that there was a decreased level of staff present in the dining room, with the residents frequently be left alone to finish their meals. Without support, many residents were observed to be less successful in finishing their meals.

Another potential need collaboratively brought up by both Scott and Dr. Micka-Pickunka is the creation and implementation of a baking program on the Gardens. Dr. Micka-Pickunka has indicated that she feels a baking program would be a good way to engage residents in the safe preparation of food items, but many staff members feel this is too challenging and stressful of an undertaking. This reveals a need for assistance in the planning of a baking program for staff members to then replicate in a way that is functional given the needs of the Gardens community.

Rockridge's Current Response to Needs

Currently, Rockridge Retirement Community and associated staff have been brainstorming and implementing various ways to promote person-centered care within its facility. One method of doing this has been through the creation and use of personalized assisted living service plans (PALs) for residents that have been developed by Dr. Micka-Pickunka in conjunction with the service plan coordinator in the Gardens. PALs, which are exclusively offered at Rockridge, are a component of Dr. Micka-Pickunka's model of Still Me Dementia Care™ that is designed to meet the cognitive abilities and interests of each individual with dementia (Micka-Pickunka, 2018). In the domain of family support, Rockridge has made a commitment to hosting monthly family zoom meetings to provide a safe space for care partners to air their concerns about their loved ones as well as to provide a space for care partners to get much-needed support. Rockridge dining services also keeps family members informed by emailing families the menus and dining services activities each week. In the area of successful dining, Rockridge has attempted to address difficulties with self-feeding by collaboratively creating a successful dining program that has been tried with residents in the Gardens thus far. The director of dining services, Scott, has made it clear that person-centered dining experiences are the priority at Rockridge, and especially in the Gardens. This is evident in Scott's description of the many opportunities for resident nutrition and hydration throughout the day. In addition to the three meals provided in the Gardens, residents are also offered various snacks, finger foods, and shakes. Residents can also participate and engage with food in new ways via weekly food demonstrations in which members of dining services enter the Rockridge community and demonstrate the creation of food items like hummus. Once the food is prepared during this demonstration, residents can taste and enjoy the new food item. Dining services at Rockridge is also dedicated to the provision of dementia-friendly, person-centered care at rockridge. Dining services staff members have been trained in dementia care techniques and are able to support residents if they are feeling agitated or confused. There are also dedicated bilingual staff to assist residents who do not presently speak English. In addition to these ample opportunities for residents to eat and participate in their nutrition, Rockridge dining services adopts a farm-to-table approach to dining so that residents consistently have a supply of

fresh food. From April to October, local produce harvested from South Deerfield and Hadley, MA and fish caught in Boston, MA are used to provide fresh meals to residents. Because residents at Rockridge have to pay more in dining fees (an average of ~\$10 per day compared to ~\$6 paid at other facilities), Rockridge is better able to provide high quality meals for residents. Rockridge is also able to meet the individual dietary needs of individuals and have nutritionists available to oversee and approve these specialized meal plans. Residents also have access to a fresh herb garden which is grown in the secured outdoor dining space in the Gardens with the support of dining services staff. Each of these facets of dining services in the Gardens indicates a commitment to the deliverance of person-centered care at Rockridge. A final response to community needs is Rockridge's demonstrated commitment to promoting the regulations set forward by the Executive Office of Elder Affairs (EOEA) by completing regularly required training with staff (Certification Procedures and Standards for Assisted Living Residences, 1994).

Local Resources

To help meet the needs of the Rockridge community, there are various local and other distinguished resources available to help meet our goals. Our most invaluable resource at this time is the assistance of Dr. Marilyn Micka-Pickunka, who is providing us with the unique perspective of being a staff member at Rockridge who has the energy and intent to promote person-centered care at Rockridge. In addition, many other staff members at Rockridge including the Life Enrichment Program staff, the service plan coordinator, and members of dining services will also provide valuable resources regarding insight into the needs of Rockridge. These groups have already made themselves available to our group via Zoom and will continue to be available throughout our time at Rockridge. Another valuable resource is the previously mentioned regulations put forth by the EOEA that describe how training modules must be completed in order to allow for Rockridge's recertification (Certification Procedures and Standards for Assisted Living Residences, 1994). These regulations provide an excellent starting point for further developing training modules. In addition, another valuable resource is the 9 training modules that have

already been created by the Alzheimer's Association. These nine modules will serve as our baseline starting point for revamping staff education to encourage increased focus on person-centered care, as well as other ideas associated with increasing family caregiver support and optimizing the environment to support daily occupation. A final resource again produced by the Alzheimer's Association is their document, *Dementia Care Practice Recommendations* (Meeks et al, 2018). This document will provide a great example of current best care practice standards set forth by the Alzheimer's Association to help inform our work at Rockridge.

Project Opportunities at Rockridge

As previously stated, one of the most significant needs pinpointed by staff at Rockridge Retirement Community is for updated training modules. The primary goal of this updated training would be to create a more engaging training process that empowers staff to provide person-centered care in a way that is mutually beneficial for both staff and residents. Within this umbrella of training, many different areas can be focused on including an understanding of behavior expression, state regulations associated with dementia care, and manifestations of elder abuse and neglect. An additional project that can be addressed by our team is the process of re-imagining current training modules produced by the Alzheimer's Association and making them more evidence-based, more engaging, and more focused on person-centered care. Another potential project associated with the family-staff conflicts identified during conversations with staff would be to create a support group catered towards family members of those with dementia who are watching their family members transition through the dementia process. This group could provide a means of open communication between Rockridge staff and families to provide support for one another and potentially minimize conflict. Another project idea would be to further explore the environment at Rockridge to find new ways to engage residents in

Intended Project at Rockridge

After speaking to members of the Rockridge community, the area of need I most am interested in is the use of music as a means of providing person-centered care. Specifically, I am interested in learning about the musical interests of each resident and using this information to help modify the environment to promote optimal engagement in meaningful tasks. Through the lens of the Person-Environment-Occupation (PEO) Model, a client-centered approach to care provision (Law et al., 1996), I plan to analyze the intersections between the person, the environment, and the occupation to best understand how music may be utilized to alter the environment and promote increased occupational engagement. One occupation I am particularly interested in delving into with the support of Rockridge's dining services and Successful Dining Program is that of self-feeding. For my project, I hope to study the way in which the presence of music may alter a resident's ability to participate in self-feeding tasks.

Potential Challenges

One potential challenge in this project is the engagement levels of staff members. While the staff members we are speaking with such as the Service Plan Coordinator and members of the Life Enrichment Program and Dining Services have appeared to be very excited about our intended project thus far, it is also reasonable to assume that some staff members may be uninterested in engaging in extra work associated with training. In order to address this challenge, we are planning on making our training modules as engaging as possible so that staff members will be excited to participate rather than feeling frustrated that they have to. Another potential challenge that we foresee is the overall lack of experience that many of us have with working with the older adult population. While some of us have had various fieldwork and personal experiences working with those who have dementia, we also recognize our training in this area will be much less than that of the experience held by staff at Rockridge. This, in turn, may limit our credibility with staff as well as our confidence in presenting materials. In order to accommodate for this, one of our focuses as a group is to build a strong rapport with staff members in order to help promote their confidence in us as fellow human beings interested in benefitting the dementia

population. Additionally, we will also fall back on the support of Dr. Micka-Picunka in order to increase our credibility and confidence as we work through this project.

Involvement of the Benefitting Community

As has been mentioned previously, staff members and care partners at Rockridge Retirement Community will be involved heavily throughout the duration of this project. Staff members will be instrumental not only in communicating the needs of Rockridge, but also in assisting with the implementation of the project. This will be especially important in determining the feasibility of our project within the setting of Rockridge. Additionally, our site mentor and Interim Director of Clinical Education at Rockridge, Dr. Micka-Pickunka, will be directly involved with and will oversee the entirety of our project. Continuous feedback from Dr. Micka-Pickunka and other staff members at Rockridge will be essential to the revision of our methods and quality improvement.

Project Viability and Maintenance

In order to ensure the viability of our project, all of the training modules and data produced throughout this project will be saved via online platforms such as Google drive. All of the online training modules produced will be saved to the Google Drive so that they can continue to be accessed by Rockridge staff after our time there is over. The multi-modal techniques utilized within our training modules will also be helpful in promoting staff retention of learned materials. Additionally, the results of my research on the use of music with self-feeding will be communicated to staff via a presentation to help ensure carryover of any relevant techniques that come to light. In addition to these techniques, we will also work to promote buy-in from care partners at Rockridge including Dr. Micka-Pickunka, Life Enrichment Program staff, the Service Plan coordinator, and Dining services staff. In doing this, we will help ensure that the training and educational modules produced will be carried over into daily practice once we leave.

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APPENDIX B: First 6 Slides of Edited Module 5


The Physical Environment Makes a Difference



Module 5 alzheimer's association

Today's Topics


- Person-centered environments
- Vision and dementia
- Auditory processing and dementia
- Modification of the environment to promote success in ADLs



alzheimer's association

Learning Objectives

- 01 List 2 components of a person-centered environment
- 02 Identify 3 ways to promote positive visual environments
- 03 Identify 2 ways to promote successful navigation
- 04 Identify 1 way to modify the sound environment
- 05 Describe 2 ways of altering the environment to promote success with ADLs



alzheimer's association



alzheimer's association



Person-Centered Care Self Discovery

When I get overwhelmed, one **positive** way I cope is by ●●●

When I get overwhelmed, one **negative** way I cope is by ●●●

alzheimer's association

Person-Centered Environment

- 1 Resident Safety
- 2 Comfort and Dignity
- 3 Sense of Community
- 4 Meaningful Engagement and Choice



alzheimer's association

APPENDIX C: First 6 Slides of Edited Module 6

Approach to Personal Care: Knowing the Person



Module 6 alzheimer's association

How does this sound and visual make you feel?





alzheimer's association

What are some bathing rituals and routines that you have?

- Do you listen to music?
- Do you light a candle?
- Do you prefer a bath over a shower?
- How long do you spend in the bath?
- What time of day do you prefer to bathe?



alzheimer's association



Person-Centered Care Self Discovery

I prefer to bathe ●●●

alzheimer's association

Today's Topics

- Dementia and personal care
- Graded supportive care
- Person-centered care approaches to assist individuals with ADLs
- Doing care *with* a person vs. *to* a person



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Learning Objectives

- 01 Describe two challenges individuals with dementia face with personal care
- 02 Identify 3 ways to support a person-centered care approach to ADL's
- 03 Understand the meaning of the "Spend 5 to Save 20" rule
- 04 Define graded supportive care
- 05 Identify two benefits of doing care *WITH* a person



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APPENDIX D: Curriculum Matrices Created for Modules 5 and 6

Module 5: The Physical Environment Makes a Difference

Content Area	Learning Objectives	Curriculum	Performance Measure	Pre-test Questions
Person-Centered Environments	-List 2 components of a person-centered environment	-POV video -“I am” activity -Resident Safety, Comfort and Dignity, Sense of Community, and Meaningful Engagement		
The Senses and Dementia	-Identify 3 ways to promote positive visual environments -Identify 1 way to modify the sound environment	-Depth perception with rolled up paper activity -Increased lighting -Reduce glare -Contrast -Body positioning -Loud audio demonstration -Ways to modify the sound environment	-T or F: It helps a person with dementia see if all of the things in the bathroom are the same color -Which of these is something that help someone with dementia see better?	-Which of the following promote the visual contrast for an individual with dementia? -Which of the following best promotes a positive sound environment for an individual with dementia?
Navigation and Dementia	-Identify 2 ways to promote successful navigation	-Well-lit paths -Color contrast -Word/picture signage -Familiar items -Navigation video (Wendy) and discussion	-Which is NOT the best way to help someone navigate their environment?	-After visiting a resident with dementia’s private room to clean it, which of the following would be the best way to leave the room in order to help the resident better navigate their space?
Modification of the Environment to Promote Success in ADL’s	-Describe 2 ways of altering the environment to promote success with ADL’s	-Environmental modifications for grooming, toileting, bathing, and self-feeding -Alternating bathroom GIF and discussion		

Module 6: Approaching Personal Care - Knowing the Person

Content Area	Learning Objectives	Curriculum	Performance Measure	Pre-test Questions
Dementia and Personal Care	-Describe two challenges that individuals with dementia face with personal care	-Dementia & Personal Care: 1. Decreased judgment and insight 2. Changes in vision 3. Difficulty with multi-step tasks		
Graded Supportive Care	-Define graded supportive care	Definition: Allows an individual to remain as active and independent as possible in their own care.	-Which of these will help make bathing easier?	-When helping an individual with dementia take a shower, what is the best way to encourage the individual to participate?
Person-Centered Care for ADL Support	-Identify 3 ways to support a person-centered care approach to ADL’s	-Preferences and history -Meaningful connection -Maintaining dignity -Graded supportive care	-T or F: It is important to give the person choices when assisting with personal care -Which of these things will help you make personal care easier for the person?	-You are assisting a resident with dementia with getting dressed. This resident loves to get dressed up in nice clothes, but often gets overwhelmed when completing the task independently. Which of the following would be the best way to assist this individual? -Which of the following will help make bathing easier when working with an individual with dementia? -When assisting a person with dementia in their dressing routine, it is most efficient to:
Doing Care <i>With</i> the Person	-Identify two benefits of doing care <i>with</i> a person	-creates positive emotion -utilizes remaining skills -maintains independence -creates social connections -promotes dignity, respect and choice	-If you are assisting with a shower and the person yells, “Stop it! Don’t!”, you should: -To help an individual brush their teeth, which of these is best? -T or F: It is best if we always pick out all of an individual’s clothes for the day	-If you are assisting an individual with dementia with a shower and the person yells, “Stop it! Don’t!” you should: -To help a resident with dementia brush their teeth, which of these is best?
Spend 5 to Save 20	-Understand the meaning of the “Spend 5 to Save 20” rule			

APPENDIX E: Sample Page from Workbook – Person-Centered Care: Self Discovery Activity



Person-Centered Care: Self Discovery

Module 1

I am _____

Module 2

It would be hard for me to accept help with _____

Module 3

My coping strategies for stress _____

A significant life experience was _____

Module 4

I communicate best by _____

Module 5

When I get overwhelmed, one positive way I cope is _____

When I get overwhelmed, one negative way I cope is _____

Module 6

I prefer to bathe _____

Module 7

If I had more time I would _____

I spend my free time _____

Module 8

When I'm frustrated I _____

Module 9

My self care includes _____

APPENDIX F: Resident Observation Tool Using the PEO Model

Person (P):
<ul style="list-style-type: none"> ● Biomechanics/Positioning:
<ul style="list-style-type: none"> ● Vision:
<ul style="list-style-type: none"> ● Ability:
<ul style="list-style-type: none"> ● Food Preferences:
<ul style="list-style-type: none"> ● Food Allergies:
<ul style="list-style-type: none"> ● Other:
Environment (E):
<ul style="list-style-type: none"> ● Table Set-up:
<ul style="list-style-type: none"> ● Sound Environment:
<ul style="list-style-type: none"> ● Staff Approach:
<ul style="list-style-type: none"> ● People Nearby:
<ul style="list-style-type: none"> ● Other:
Occupation (O):
<ul style="list-style-type: none"> ● Socialization:
<ul style="list-style-type: none"> ● Type of Food Provided:
<ul style="list-style-type: none"> ● Food Presentation:
<ul style="list-style-type: none"> ● Amount of Food Given:
Performance (P):
<ul style="list-style-type: none"> ● Safety:
<ul style="list-style-type: none"> ● % of Consumption:
<ul style="list-style-type: none"> ● Engagement:
<ul style="list-style-type: none"> ● Other:

APPENDIX G: Final Scholarly Paper

The Impact of Personalized Music on Occupational
Engagement During Mealtimes in People with Dementia

Brooke Ellis

Western New England University

Doctor of Occupational Therapy Program

16 July 2021

I. Executive Summary

Dementia is an umbrella term for a loss of memory and other thinking abilities that are severe enough to interfere with everyday life (Alzheimer's Association, 2020). In the United States, there are 5.8 million Americans who are living with Alzheimer's dementia, with this number being expected to rapidly increase to 88 million by 2050 (Alzheimer's Association, 2019). There are multiple different types of dementia including Alzheimer's disease, Lewy Body dementia, frontotemporal dementia, and vascular dementia, however, Alzheimer's disease is currently the most prevalent type (Hamdy et al., 2019). Dementia particularly impacts older adults, with dementia impacting anywhere between 21.75% to 47.5% of adults older than 85 in the United States (Hamdy et al., 2019). This is compared to a prevalence rate of 1.1% in people ages 6 to 64 in the United States (Hamdy et al., 2019). Some of the challenges associated with dementia include a progressive decline in one's ability to make decisions, communicate with others, and perform functional tasks (McDonald et al., 2010). During advanced stages of dementia, memory, verbal skills, ambulation abilities, and the ability to perform activities of daily living are significantly impaired (Mitchell, 2015). As a result of these challenges, many individuals with dementia are often unable to age in place at their homes and must consider other residential options such as an assisted living residence (ALR) or skilled nursing facility (SNF). While some of the symptoms of dementia can be mitigated with different treatment options, dementia progression cannot presently be reversed or cured (Hamdy et al., 2019).

II. The Impact of Personalized Music on Occupational Engagement During Mealtimes in People with Dementia

Statement of the Problem

Currently, limited options exist to effectively treat patients with dementia, and disease progression cannot be reversed or cured (Hamdy et al., 2019). In 2010, five drug therapies were approved to treat AD (Casey, 2010). These drugs have been approved not to cure or alter the outcome of the disease, but to provide palliative support for its associated symptoms (Qaseem et al., 2008). Despite the approval of these drugs, many criticize their lofty expense, with the medications collectively costing well over \$1 billion per year in the United States alone (Grady, 2007). These drugs have also been scrutinized by the British National Institute for Clinical Excellence (NICE) as not being able to meaningfully improve the quality of life of people with dementia or delay transitions to skilled nursing facilities despite the drugs' massive costs (Casey, 2010). While a new drug called Adulhelm produced by the company, Biogen, was recently approved by the Federal Drug Administration (FDA) to treat AD (Marx, 2021), this drug is also currently being heavily scrutinized. Recent reports have questioned the FDA's accelerated approval for this drug despite the overwhelmingly negative opinions and subsequent resignations of members of the Peripheral and Central Nervous System Drug Advisory Committee, an organization that cast 10 votes against Aduhlem's approval. (Specter, 2021). With this in mind, it is clear that pharmacological approaches used to manage the symptoms of dementia are not yet confirmed as ethical, effective, or sustainable. To better promote quality of life in the dementia population, more evidence-based, nonpharmacological approaches to symptom management, such as music, are needed.

Significance to the Field of Occupational Therapy

Occupational therapists are allied healthcare professionals who therapeutically use everyday life occupations with persons, groups, or populations to enhance or enable participation (AOTA, 2020). Utilizing the Person-Environment-Occupation-Performance (PEOP) model, occupational therapists

are trained to understand how physical aspects of the environment can be adjusted to enhance occupational performance. One important occupation that occupational therapists frequently address is self-feeding, which is described as tasks associated with setting up, arranging, and bringing food or fluid from the vessel to the mouth (AOTA, 2020, S30). One method of assessing self-feeding is by analyzing occupational engagement during mealtimes. Occupational engagement, in the context of occupational therapy, can be described as a sense of involvement, choice, and positive meaning while performing an activity or part of an activity (Townsend & Polatajako, 2007). By promoting occupational engagement during tasks such as self-feeding, it follows that individuals with dementia will be more successful in the task and consume more food. The following study will contribute to the expanding literature on ways to promote occupational engagement during self-feeding in adults with dementia.

Purpose of the Project Study

The purpose of this study is to explore and understand how personalized music impacts occupational engagement during mealtimes for individuals with dementia. This research will contribute to the growing body of literature dedicated to the development of non-pharmacological treatments for people with dementia. Additionally, this research draws on Boyer's Models of Scholarship, specifically the models of scholarship of teaching and learning (Boyer, 1996). In this model, emphasis is placed on the search for innovative approaches and best practices to develop skills and shared knowledge (Boyer, 21996). In this context, a secondary purpose of this project is to contribute to the understanding of best practices for promoting dementia-care excellence in the context of the intersection of self-feeding and dementia-care excellence.

Theory/Models

Person-Environment-Occupation-Performance (PEOP) Model

The model utilized as a basis for understanding the following project is the Person-Environment-Occupation-Performance (PEOP). The PEOP model is a client-centered approach to

care provision that consists of three components. These include the person, the environment, and the occupation (Law et al., 1996). Within this model, the ‘person’ refers to the individual and their distinct abilities, personal preferences, and experiences (Wong & Leland, 2018). The ‘environment’ is composed of the physical, social, cultural, and socio-economic factors surrounding an individual at any given time (Wong & Leland, 2018). Finally, ‘occupation’ refers to the functional tasks and activities that an individual engages in (Wong & Leland, 2018). Occupations may include things like self-feeding, social activity, and toileting, to name a few. These three components of the PEO model each interact with one another in distinct ways to promote various experiences of occupational engagement and mastery. This model will serve as a basis for understanding the various factors that interact to impact the success of individuals with dementia in self-feeding tasks.

Habilitation Therapy

Another theory used to understand this project is habilitation therapy. This theory of dementia care emphasizes maximizing the individual’s functional independence at their current level, rather than attempting to rehabilitate them to a higher level (Reia, 1999). To do this, Reia (1999) proposes eliciting positive emotions from individuals with dementia throughout the day. While individuals with dementia do not always remember why they feel a certain emotion, their capacity to *feel* emotions such as happiness or anger is not impacted by their disease (Reia, 1999). Habilitation theory proposes that the experience of emotions, whether positive or negative, are carried with an individual throughout the day. As a result, this experience of emotion can impact the individual’s capacity to fully participate in activities such as feeding, toileting, or bathing hours after the individual first experienced strong emotion. Understanding dementia care from this model helps frame the way that environmental modifications during self-feeding could be utilized to draw on the strengths of individuals with dementia and elicit positive emotions for increased success.

Person-Centered Care

This theory stems from the work of Kitwood (1997), who emphasized the importance of an individual's personhood, or 'a standing or status bestowed upon one human being, by others, in the context of relationship and social being' (Kitwood, 1997). This idea emphasizes the social connection that people with dementia experience in the context of their care environments. When a positive social relationship is emphasized between care partners and individuals with dementia, Kitwood (1997) argues that the individual with dementia is better able to thrive. This theory also discusses the inert value of emphasizing the personal interests of people with dementia. Fazio et al. (2018) summarize Kitwood's work as being a philosophy of care built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship. This approach to dementia care emphasizes the value of utilizing personalized, social interventions when working with individuals with dementia.

Theory of Communicative Musicality

This theory was proposed by Malloch & Trevarthen (2009) and discusses how music is a fundamental component of human communication. This concept suggests that music can be utilized as a helpful, communicative tool for people with dementia.

Project/Study Question

1. How does the use of personalized music impact an individual with dementia's engagement during mealtimes?

Definitions

Alzheimer's disease: A progressive disease resulting in the loss of higher cognitive function; the most common form of dementia (Martone & Piotrowski, 2021).

Dementia: A group of disorders involving a pervasive, progressive, and irreversible decline in cognitive functioning resulting from a variety of causes (Hamdy et al., 2019).

Habilitation Therapy: A theory of dementia-care that encourages maximizing an individual's functional independence at their current level by eliciting positive emotions (Reia, 1999).

Occupational Engagement: A sense of involvement, choice, and positive meaning while performing an activity or part of an activity (Townsend & Polatajako, 2007).

Person-Centered Care: A philosophy of care built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship (Fazio et al., 2018).

Self-feeding: Tasks associated with setting up, arranging, and bringing food or fluid from the vessel to the mouth (AOTA, 2020, S30).

III. Literature Review: An Exploration of the Intersection of Music, Self-Feeding, and Dementia Care Excellence: A Literature Review

Amongst the population of older adults living with dementia, self-feeding has been identified as an area of difficulty. Self-feeding is described by the Occupational Therapy Practice Framework as tasks associated with setting up, arranging, and bringing food or fluid from the vessel to the mouth (AOTA, 2020, S30). During the beginning stages of dementia, individuals may experience irregular feeding patterns (Mitchel et al., 2009), such as eating with their hands instead of utensils. Individuals with Alzheimer's disease often experience a delayed oral transit time in both food and liquids that may be associated with the impaired perception of food within the oral cavity (Prifer & Robbins, 1997; Suh, Kim, & Na, 2009). As dementia progresses, individuals may lose their ability to swallow both solids and liquids, resulting in weight loss and discussions regarding the ethics of artificial nutrition (Mitchell et al., 2009). Of the 47% of individuals in the United States with dementia who currently live in nursing homes (AHCA, 2009), more than half lose some ability to feed themselves (Leclerc et al., 2004). As individuals with dementia lose their ability to self-feed, they are at an increased risk for agitation and distress at mealtime, dehydration and malnutrition, and aspiration that can lead to relational pneumonia (Wirth et al., 2016). This is especially problematic because pneumonia was found to be the most common cause of death in patients with Alzheimer's disease (Todd, Barr & Passmore, 2013). A 2019 two-year longitudinal study conducted in a Japanese nursing home further explores this connection between self-feeding ability

and mortality (Sakamotoo et al., 2019). Using the Self-Feeding Assessment Tool for Elderly with Dementia (SFED), researchers aimed to see if individual scores on the SFED could predict mortality risk in nursing home residents. The results found that self-feeding ability, including the ability to eat without dropping food, maintain attention to a meal, and swallow without choking were significantly associated with two-year mortality (Sakamotoo et al., 2019). These collective findings indicate that increased attention to occupational performance in the domain of self-feeding is needed in the dementia population. The following literature review will further explore theories of dementia-care practice and the connection between music and self-feeding to provide a foundation for understanding the potential impact of personalized music on occupational engagement during mealtimes.

The Person-Environment-Occupation-Performance Model

While a cure for Alzheimer's disease has not yet been discovered, various health professionals, including occupational therapists, can work with those who have dementia to help preserve function (AOTA, 2020). One approach that occupational therapists often utilize while working with individuals with dementia is to utilize the lens of the Person-Environment-Occupation-Performance (PEOP) Model. The PEOP model is a client-centered approach to care provision that consists of three components. These include the person, the environment, and the occupation (Law et al., 1996). Within this model, the 'person' refers to the individual and their distinct abilities, personal preferences, and experiences (Wong & Leland, 2018). The 'environment' is composed of the physical, social, cultural, and socio-economic factors surrounding an individual at any given time (Wong & Leland, 2018). 'Occupation' refers to the functional tasks and activities that an individual engages in (Wong & Leland, 2018). Occupations may include things like self-feeding, social activity, and toileting, to name a few. Finally, 'Performance' refers to the individual's capacity to engage and participate in occupations. These components of the PEOP model each interact with one another in distinct ways to promote various experiences of occupational engagement and mastery. While characteristics of the person and desired occupation are often difficult to change, modifications to the

environment (such as the use of music), may provide an in-road for the promotion of improved occupational performance.

The Intersection of Person-Centered Care and Personhood in Dementia Care

One frequent challenge with the provision of care for individuals with dementia is a tendency for healthcare professionals to focus their efforts according to the medical model, which focuses on health as the absence of disease and views the sick body as a malfunctioning machine (Tantawi, 2020). This perspective can often limit attention towards an individual's personhood and can lead to disengagement towards the end of life (Smith & D'Amico, 2020). An alternative to this model is the use of person-centered care, which can be described as a philosophy of care built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship (Fazio et al., 2018). Many existing theories of person-centered care are based on the work of Thomas Kitwood (1998). Kitwood proposed that dementia is best understood as the interplay between neurological impairment and psychosocial factors such as health, individual psychology, the environment, and social context (Fazio et al., 2018). This view of dementia provides a stark contrast to the strictly medical view of dementia initially understood by healthcare professionals. In addition to ideas of person-centered care, the concept of personhood is another important component of dementia-care excellence. In the legal sense of this term, personhood is a concept that determines what constitutes a person in the eyes of the law (Zukauskas, 2020). When thinking about personhood as it pertains to dementia, Kitwood (1997) separates personhood from its legal connotations and argues that personhood should instead be conceptualized to include relationships and moral solidarity, or belief in what is right and wrong. An analysis of person-centered care conducted by Fazio et al. (2018) asserts that the provision of care based on knowing the person within the context of an interpersonal relationship is supported as best-practice care. With this in mind, Fazio et al. (2018) make the following practice recommendations: (1) know the person living with dementia, (2) recognize and accept the person's reality, (3) identify and support ongoing opportunities for meaningful engagement, (4) build and nurture authentic, caring relationships, (5) create and maintain a

supportive community for individuals, families, and staff, and (6) evaluate care practices regularly and make appropriate changes. Points one and three lend support to the use of personalized music as a way of encouraging meaningful occupational engagement.

Habilitation Therapy

Another approach to treating individuals with dementia that stems from ideas of personhood and person-centered care is habilitation therapy. While rehabilitation models focus on assisting individuals in returning to their level of functioning before illness or injury, the habilitative model instead emphasizes maximizing the functional independence at the individual's current level (Reia, 1999). For those who have experienced a significant decline in cognitive function, Reia (1999) argues that one of the best ways to maximize functional independence is to elicit positive emotions throughout the day. This is particularly helpful because the ability to feel emotions does not diminish with dementia (Reia, 1999). The Centers for Medicare & Medicaid Services (CMS) led an innovation study in 2013 to help determine whether habilitation therapy techniques could be utilized to help manage dementia-related behaviors. In this study, 30 Massachusetts nursing homes participated in the project over 12 months. The project involved the creation of an interdisciplinary behavior team, habilitation therapy training, various check-ins, and monthly collection of process and measure data. The primary intervention during this study was the provision of 10 hours of habilitation therapy training to staff, as well as the utilization of interdisciplinary behavior teams to help track and understand resident behaviors. Researchers were interested in looking at the connection these interventions have to quality measures including the use of antipsychotic medications, the experience of depression symptoms, and the frequency of falls, urinary tract infections, and the use of physical restraint (Fitzler et al., 2016). At the end of the 12-month period in which the habilitation therapy interventions were implemented, it was found that participating facilities showed improvement on 9 of the 12 reported measures (Fitzler et al., 2016). The most notable impact was seen in a 42.03% decrease in self-reported resident-on-staff altercations (Fitzler et al., 2016). These results demonstrate the value of habilitation therapy as a way of reducing negative outcomes at skilled nursing facilities.

Music and Dementia

While dementia severely impacts many areas of the brain and makes it difficult for individuals to participate in meaningful tasks, the ability to listen to and appreciate music is often retained in dementia. This preserved ability is thought to be linked to the fact that dementia can affect regions of the brain linked to music cognition more slowly than other regions (Simmons-Stern, Budson, & Ally, 2010). Another theory is that music's ability to heighten arousal can help alleviate attentional deficits that are often found in dementia (Simmons-Stern et al., 2010).

Several studies have found positive outcomes associated with the use of therapeutic music interventions in the dementia population. In one qualitative study conducted by McDermott, Orrell, & Ridder (2014), researchers led focus groups and interviews at two care homes in the United Kingdom where music therapy was being facilitated by the study's lead researcher (Orri McDermott). These focus groups and interviews were conducted with staff, therapists, family members, and residents to help determine the experience of individuals with dementia when participating in music therapy. The findings of these focus groups revealed that the use of music therapy had an overwhelmingly positive impact on the residents. Music was described by the focus group participants as a readily accessible medium of engagement that residents could utilize to better connect to the "here and now" of the moment (McDermott, Orrell & Ridder, 2014). Music therapy was also identified by participants as a manner for residents to better connect to their personal histories as well as one another (McDermott, Orrell & Ridder, 2014). Families and care partners also found that music therapy had an overwhelmingly positive impact on the mood of residents as well as the overall environment of the care home. Despite the positive feedback from staff and residents, music therapists who also participated in the focus group noted their difficulty maintaining credibility in their work and finding appropriate times and spaces to provide music therapy (McDermott, Orrell & Ridder).

There have also been several other recent studies that analyzed the ways that music can help improve cognitive functioning for those with dementia. One study conducted by Gómez & Gómez

(2017), looked at 42 patients who had mild to moderate Alzheimer's disease and underwent six weeks of music therapy. After the study was completed, significant improvements in memory, orientation, depression, and anxiety in both mild and moderate cases were discovered. In moderate cases of Alzheimer's disease, an improvement in delirium, hallucinations, agitation, irritability, and language disorders were observed (Gómez & Gómez, 2017). These findings were observable after only four music therapy sessions, indicating the overall positive impact that music therapy can have on individuals with dementia.

Another 3-year study conducted by researchers at the Betty Irene Moore School of Nursing at UC Davis similarly aimed to study the effects of a nonpharmacologic intervention (Music & Memory) on residents with dementia or behavioral problems living in nursing homes (Bakerjian et al., 2020). The results of this study found an association between the Music & Memory program and reductions in psychotropic medication taken and fewer distressed behaviors (Bakerjian et al., 2020). Another interesting study regarding music and dementia is a 2019 study out of the United Kingdom (Cunningham et al., 2019). In this study, researchers utilized a musical mobile app as a way to promote task-song association during various daily activities. Various tasks were displayed on an android tablet device, and as a resident went to complete a given task, they would select the corresponding icon which would cue up a specific playlist. Each playlist was unique to its corresponding task, meaning songs were not repeated amongst tasks (Cunningham et al., 2019). Researchers aimed to see whether the use of this app improved various components of a resident's life including their happiness, physical health, and memory. Following the implementation of this study, quantitative data associated with these measures was not determined to be significant; however, in conjunction with qualitative data collected from staff, researchers found that use of the mobile music app produced positive changes in terms of behavior, ability, and routine in the life of residents living with dementia (Cunningham et al., 2019). Each of these studies lays a foundation for future studies on the use of music for individuals with dementia.

Personalized Music and Dementia

While several general musical interventions can improve functioning in individuals with dementia, utilizing a person-centered care approach via music has also been found to be beneficial. Researchers at the University of Utah Health, for example, conducted a study of 17 individuals with Alzheimer's using functional magnetic resonance imaging (fMRI) following training with personalized music listening programs (King et al., 2019). The results of the imaging associated with this study found that personally meaningful music showed specific activation of the supplementary motor area of the brain that is typically spared in early Alzheimer's disease. Additionally, this study also found widespread increases in connectivity in corticocortical and corticocerebellar networks following the presentation of preferred music, which may be indicative of improvements in brain network synchronization (King et al., 2019). These findings suggest the potential for familiar music to facilitate attention, reward, and motivation to make it more possible to help manage emotional distress in Alzheimer's disease (King et al., 2019).

Another critical study on this topic was conducted by Cohen et al. (2020) out of Columbia Health Care Center in Wyocena, Wisconsin, and in collaboration with researchers at Stony Brook University. The objective of this study was to explore whether listening to personal music could ease dysphagia and related eating problems (Cohen et al., 2020). In this study, five residents who had difficulty swallowing or feeding themselves were identified and asked to participate. In the end, four residents ended up participating for the full duration of the study. Without the personalized music intervention, the average food intake for the four subjects was 41.4% of their meals. After researchers provided residents with a personalized playlist a half-hour before dinner time, the average food intake increased to 71.4% (Cohen et al., 2020). This statistically significant increase was supplemented by team observations of improved swallowing and nutritional status and decreased choking incidents during mealtime. It was also noted that the participants' weights stabilized, the participants had less need for speech interventions or thickened liquid, and their overall quality of life was enhanced (Cohen et al., 2020). While the sample size was

admittedly small in this study, the findings of this study indicate evidence for the use of personalized music as a way to improve quality of life for individuals with dementia, as well as to prevent unnecessary transitions to PEG tube feeding systems.

Conclusion

As described in the preceding literature review, music has been utilized to promote many positive outcomes for individuals with dementia. Some of these positive outcomes include improved mood (McDermott, Orrell & Ridder, 2014), as well as improved memory, orientation, depression, and anxiety in mild to moderate cases of dementia (Gómez & Gómez, 2017)). In cases of moderate dementia, music was found to lead to improvements in delirium, hallucinations, agitation, irritability, and language disorders (Gómez & Gómez, 2017). These findings align well with theories of dementia care practice which indicate the value of person-centered care practices that elicit positive emotions throughout the day (Kitwood, 1997; Reia, 1999; Wong & Leland, 2018). Through the use of music, care providers may be able to tap into a simple, non-pharmacological intervention that can help mitigate symptoms associated with dementia.

IV. Methodology

Population

The participants in this research project were recruited from The Gardens unit at Rockridge Retirement Community, an Assisted Living Residence (ALR) located in Northampton, MA. There are four residential neighborhoods at Rockridge, but participants for this project were recruited solely from The Gardens, a secured neighborhood that is specifically designed for those with memory challenges. At the time of recruitment, 17 residents were living on The Gardens at Rockridge, with all of the residents having a dementia diagnosis. Of these initial 17 residents on The Gardens, three were immediately excluded from participation in this project because they have private duty assistants who provide maximal assistance during mealtimes. The remaining 14 residents were considered for the

study. As time went on, 3 additional residents moved into The Gardens neighborhood but were excluded from the study due to their late arrival.

Recruitment

Participants for this project were recruited using purposive sampling techniques. To begin the recruitment process, researchers observed the 14 prospective participants during breakfast and lunch to identify which residents demonstrated the most difficulty with self-feeding from an outside perspective. These observations were supplemented by resident care assistants (RCAs) on The Gardens who were asked to identify residents they perceived as having significant difficulty with self-feeding and/or often required 1:1 assistance during mealtimes. The information from both of these sources of information was compiled and analyzed by the research team. Of the 17 residents currently residing in The Gardens at Rockridge, four residents were recruited to participate in this study (n=4). Verbal consent was given for participation in the study by the residents' health care proxies.

Study Design

This study follows a descriptive observational study design in which the mealtime engagement of four residents with dementia was observed during a personalized music intervention at lunch. Throughout this study, all resident data were de-identified to maintain confidentiality. Data analysis for this study will utilize an observational checklist that was created by the lead researcher. The development of this checklist will utilize an 'a posteriori' hypothesis of what mealtime engagement would most likely look like for residents with the use of personalized music.

Measures

To obtain a baseline assessment of each resident's self-feeding abilities, the Dementia Mealtime Assessment Tool (DMAT) (Appendix A) was initially selected and utilized. The DMAT is a 25 question, evidence-based assessment tool that addresses three major areas of self-feeding including ability to self-feed, preferences with food, and oral difficulties & behaviors (DMAT, 2021).

This assessment was administered to all residents during the observation of one meal. After administering this assessment to each of the residents, it was decided by the researchers that it could not appropriately measure the researchers' intended outcomes of engagement in self-feeding. For this reason, the results of this assessment will not be further discussed in this paper.

Procedure

Once all participants were successfully recruited to participate in this project, they were screened using the DMAT assessment as mentioned in the measures section of this report. Once this was complete, researchers then began to work on the task of compiling a list of music that was personally meaningful to each study participant. Because most of the residents were unable to verbally communicate and/or remember the type of music they may have enjoyed throughout their lifetime, the researchers contacted various sources to collect information on the resident's favorite type of music. The first source that the researchers utilized to collect this information was the immediate family members of each resident. An email (Appendix A) was sent out to the children of each of the residents asking them to respond with the type of music or the name of songs that they remember their parents listening to during their life. If the family member could not remember or did not respond to the e-mail, researchers then reached out to staff members on The Gardens (life enrichment program staff, RCA's) to ask about what type of music each participant appeared to enjoy. A list of music (Appendix B) consisting of 3-10 songs was compiled for each resident based on these responses. Next, two MP3 players and two pairs of headphones were purchased for use during this project. The MP3 player and headphones were purchased on Amazon.com. The type of MP3 player purchased was a SanDisk 8MB Clip Jam MP3 Player and cost \$29.50 per MP3 player. The purchased headphones were Sony ZX Series Wired On-Ear Headphones that cost \$9.99 each. When purchasing both of these items, ease of use and acceptance of the headphones by the residents were highly considered. Additionally, it was important to purchase headphones that went over the resident's ears rather than earbuds to avoid difficulties with hearing aids. Once the materials for this

project were purchased, each resident's personalized music selections were purchased from Amazon Music's online digital library. Individual songs ranged in cost from \$0.89 to \$1.29. Once the songs were purchased, the lead researcher downloaded the music onto their computer and transferred it to each MP3 player using the charging cord that came with the MP3 player. Once all of the music was downloaded, the songs were sorted into four individualized, labeled playlists. These playlists were transferred to and available on each of the MP3 players so they would be easily accessible to the researchers and staff at Rockridge.

Interventions

Once all four personalized playlists were loaded onto each MP3 player, the playlists were presented to each resident immediately before their lunch. One researcher approached each resident with the MP3 player and headphones. The researcher demonstrated to the resident how the headphones went over their head and placed the headphones over the ears of each resident. Increased time for setup was required with some residents who were more apprehensive of the headphones. After the first trial using the headphones with the first participant, a headphone splitter was also purchased from Amazon for the price of \$6.59. The purpose of this splitter was to allow the researcher to be able to listen to the same music as the resident was in real-time. This also helped to ensure that the volume level was appropriate for the resident who was listening to the music.

Music was presented to participants anywhere ranging from 10 minutes before the lunchtime meal to directly at the beginning of the lunchtime meal. The researcher who provided the music to the resident selected one song to start the resident off and changed the music as needed. The researcher interacted with the residents and encouraged them as they listened to their personalized music. After listening to 10 minutes of music, the researcher gently removed the headphones from each resident, allowing them to continue to eat their lunch. One resident took the MP3 player into her lap when it was presented to her and listened to the music throughout her entire meal. This individual did not change the songs herself but instead listened to the music as it shuffled in her playlist. Although this

diverged from the methodology utilized with other residents, this was permitted to meet the needs of the individual. Each resident was presented with their MP3 player during two separate instances, with both instances being during the noon lunch block. A video recording was taken of each of the residents during their second experience with the music. The video recording was taken by a professional photographer who was onsite with the research team over the course of several weeks. Short video clips ranging in duration from 30 seconds to 5 minutes were recorded of each resident as they listened to their personalized music selections.

Data Analysis

To analyze each of the resident's observable responses to their personalized music playlist, the recorded video clips were compiled into one longer video. These videos were then overlaid with the music that the individual was listening to at the time of the video's recording. The purpose of this was to allow the reviewers to be able to hear the music that each resident would have been listening to at the time of the original recording. These video edits were completed on a laptop using the free video editor, Open Shot. Once the videos were edited, their total length ranged from 1 to 3 minutes. This discrepancy in duration was based on the availability of video footage. Next, the edited videos were all labeled with each resident's initials and uploaded to a folder with restricted access on Google Drive. Once the videos were edited and ready for viewing, a team of 7 reviewers was assembled to review the videos of each resident listening to their personalized music and then extract relevant themes.

The team of reviewers consisted of six occupational therapy students and one occupational therapy educator who were all hand-selected for this task by the lead researcher. Six of the reviewers had less than three years of clinical experience in the field of occupational therapy and one reviewer had more than 15 years of experience in the field (Appendix C). The reviewers who participated in this data analysis consisted of a mixture of individuals who *had* and *had not* worked with the participants. One of the reviewers had interacted with the residents in person one time, one of the

reviewers had interacted with the residents in person more than one time, and one of the reviewers had close, regular contact with the residents. The remaining four reviewers had never personally met any of the residents featured in this study. The lead researcher in this project did not serve as a reviewer for this component of the project. The purpose of this variation in reviewer composition was to diminish the effect of reviewer bias when analyzing the selected videos.

Once the team of reviewers was formed, a link to a google form was sent to the e-mail addresses of all reviewers. This Google form (Appendix D) included a paragraph of instructions, as well as a link to a folder on Google Drive that contained the four videos that the reviewers needed to view and respond to. To maintain the confidentiality of the participating residents, reviewer access to the Google folder was removed following the completion of data analysis. The full names and identities of the participating residents were not disclosed to the reviewers at any time. Once the reviewers opened the google form, they were asked to record three to ten of their observations of the resident's overall response to their personalized music playlist including their mood, demeanor, and verbal/nonverbal expressions. Reviewers were instructed to record this data anonymously in the corresponding text boxes on the supplied Google Form (Appendix D) using sentences of no more than five words for each observation. The purpose of this was to encourage reviewers to form short and succinct observations about each resident's response to the personalized music. Reviewers were also asked to answer two demographic questions after submitting their responses. These questions included their role in the field of occupational therapy and their number of years of clinical experience in the field of occupational therapy (Appendix C).

Once all reviewers completed their observations on the associated Google form, the primary researcher analyzed the collected data using content analysis. Content analysis is a process of analyzing data that involves determining the presence of certain words, themes, or concepts within a given set of qualitative data (Columbia University, 2019). During the data analysis, the lead researcher coded for the frequency of concepts at the word sense level, meaning that the researcher

determined the overall frequency of concepts in the qualitative data by extracting the word meanings from the words and phrases recorded by the reviewers. If a reviewer were to document a phrase such as “Looks angry”, for example, the lead researcher extracted the word sense from this phrase to be “Angry”.

To guide the process of the content analysis, an observational checklist titled ‘Mealtime Engagement Observation Checklist’ (Appendix E) was created by the lead researcher. Using ‘a priori’ hypotheses, the lead researcher hypothesized the most likely responses that residents would have to the personalized music intervention and recorded them in the form of a checklist. These hypotheses were broken down into five categories including Facial Expressions, Interaction with Food, Interactions with Others, Body Positioning, and Body Movements. Within each of these five categories, more specific observations relating to each category were listed (see Appendix E). An ‘Other’ box was included in each category on the checklist. The purpose of this was to allow for the introduction of new and important material that could have significant implications for the research question (Columbia University, 2019).

The Mealtime Engagement Observation Checklist was designed for the lead researcher to utilize, rather than the reviewers. Once the reviewers input their responses to each of the four videos on Google Forms, their data was recorded by the Google Form in the form of charts, graphs, and spreadsheets. To make the data easier to read and understand, the lead researcher transferred the data from Google Forms into a separate Google Sheet (see Appendix F). Once the data was transferred into the separate Google Sheet, the reviewer scanned the sheet for any outliers that should not be further analyzed. If a phrase was inputted twice by one reviewer, for example, the second entry was struck so as not to alter the results. Additionally, if a reviewer inputted information that was not about the featured resident or their response to the music (as the instructions on the Google Form indicated), then that data point was not included in data analysis. If a reviewer, for example, inputted a phrase

such as “The music was loud”, this information was not included in the analysis because it did not pertain to the resident’s overall responses to the music.

Once all data was inputted in the updated Google Sheet and outlier data were eliminated, the lead researcher created an additional Google Form to further analyze the data. The purpose of this form was to serve as an interactive version of the ‘Mealtime Engagement Observation Checklist’ so that the data collected from reviewers could directly be analyzed via the charts and graphs that Google Forms creates. The researcher inputted the responses of all seven reviewers into this secondary form (Appendix G) and utilized the various charts that were produced to determine data results. In this process, the researcher condensed the larger statements and phrases inputted by each reviewer into the word or word sense of the phrase so that succinct themes could be pulled out. Once all data was inputted, the frequency of each documented observation was recorded.

V. Results

After accounting for repeated data points and data that did not specifically pertain to the resident’s response to the music as instructed, a total of 128 observations were collected from the team of seven reviewers. The following data details the combined number of observations for all reviewers and all residents. Overall, the most frequently observed category of responses was facial expressions, with 66 total facial expressions being recorded by the reviewers for all residents. The least frequently observed category was body positioning, with only five observations falling in this category for all residents. In between, there were 20 observations of interactions with others, 22 observations of body movement, and 15 observations of interaction with food (see Image 1 below).

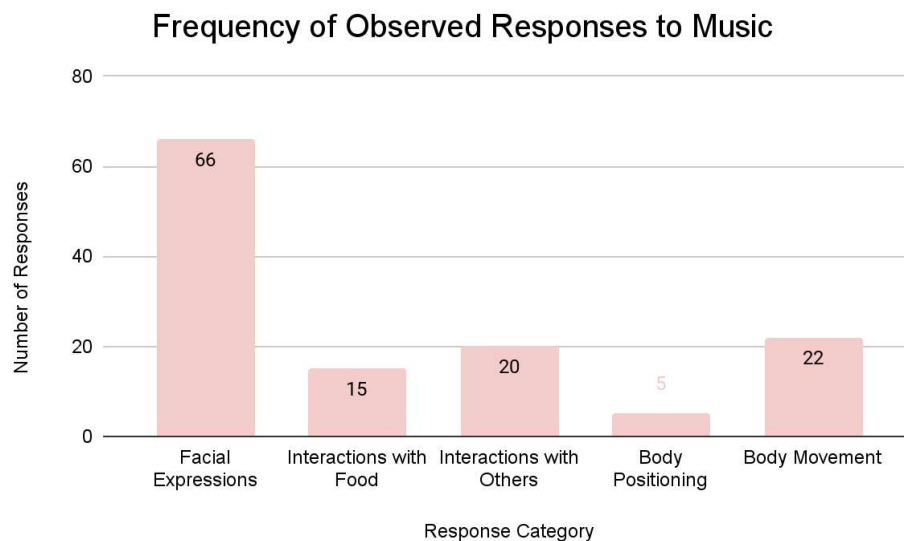


Image 1

Within each of the five larger categories describing the residents' responses to the personalized music intervention, the frequency of observations of each subcategory was also recorded. Within the category of facial expressions, for example, the most commonly observed facial expressions were relaxed, smiling, and happy (see Image 2). The subcategories of facial expressions including frowning, scowling, anxious, fearful, and bored were not observed or recorded by any of the reviewers. In the category of facial expressions, the "Other" section of the checklist was utilized to include 'closed eyes' and 'interested' facial expressions as observations. A closed eye facial expression was observed five times and the 'interested' facial expression was observed three times.

In the category of interactions with food, the subcategories 'interacting with utensils' and 'bringing food to mouth' were the most commonly observed. Both of these subcategories were observed five times (see Image 2). All four of the subcategories of interactions with food were observed at least once. In the category of interactions with others, eye contact was observed 11 times, and talking and smiling *at* someone were both observed seven times (see Image 2). In the category of body positioning, there was the least number of total observations of any category, with only five total observations. The most common observation within the category of body positioning was 'hand to face' (see Image 2). Again, this observation was added to the original checklist via the "Other" category. Finally, in the

category of body movement, the most commonly observed body movement was ‘nodding head’, which was observed a total of 11 times (see Image 2). ‘Nodding head’ was not included on the original checklist and was another example of an observation that was added via the “other” category.



Image 2

Between each of the five larger categories of observations, four individual observations were most frequently observed. These most common observations include a relaxed facial expression, which was observed 20 times, eye contact and nodding head, which were both observed 11 times, and a smiling facial expression, which was observed eight times (see Image 3).

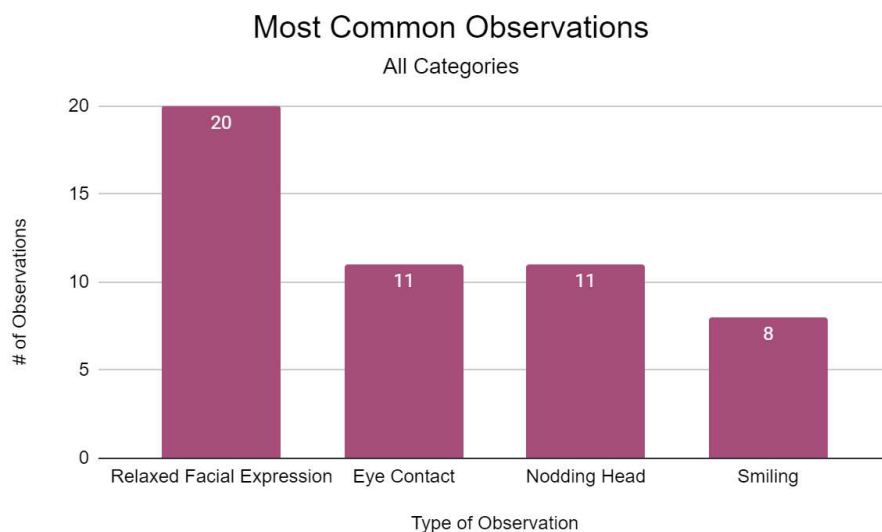


Image 3

VI. Discussion

Introduction

This study aimed to understand how personalized music impacts occupational engagement individuals with dementia during mealtime. This project can help contribute to the growing body of literature on non-pharmacological treatments for people with dementia. In this observational study, a team of seven reviewers each independently watched four videos of residents living in ‘The Gardens’ listening to a personalized music playlist. During this time, the reviewers all recorded their observations of the residents’ responses to the music. This data was then analyzed via content analysis to determine the most frequent observations associated with occupational engagement during mealtimes.

Occupational engagement can be described as a sense of involvement, choice, and positive meaning while performing an activity or part of an activity (Townsend & Polatajako, 2007). Overall, the most common observations reported as residents listened to their personalized music playlists included a relaxed facial expression, eye contact, nodding their head, and smiling (see Image 3). While on an individual level each of these observations may not describe occupational engagement, together these expressions meet many components of the definition of occupational engagement. For example, a relaxed facial expression and smiling during an occupation are highly indicative of positive meaning. On the other

hand, eye contact and head nodding are indicative of both involvement and choice in the individual's participation in occupation. In addition to these most common observations, there were also 13 observations reported by the reviewers that described residents as interacting with utensils and items on their table, as well as bringing food to their mouths. These findings are again indicative of engagement during mealtime for the observed residents. This number may be skewed left due to the timing of the video recordings, which will be discussed further in the limitations section.

In addition to connections to occupational engagement, the overarching themes observed in this study are largely positive. One particularly interesting finding is the extremely high volume of facial expressions observed during this study. In total, the reviewers in this study made observations of 66 facial expressions (see Image 1). All of the facial expressions that were reported, such as relaxed, smiling, happy, closed eyes, content, humorous, and interested, are indicative of positive emotions (see Image 2). During data analysis the checkboxes associated with facial expressions such as frowning, scowling, anxious, fearful, and bored were not observed or recorded by any of the reviewers. This suggests that, above all else, the personalized music that was presented in this study was and continues to be capable of evoking positive emotions in all four residents. This idea is very much in line with some of the tenets of habilitation therapy (Reia, 1999), which will be further discussed in the implications section of this paper.

In addition to these findings, many of the facial expressions, such as smiling, humorous, and interest, align with similar observations in the category of interactions with others. These include 11 observations of eye contact and 7 observations of both talking and smiling. The observations in both of these categories together demonstrate the presence of social participation. Social participation is considered by the American Occupational Therapy Association to be a valued occupation that involves social interaction with others, including family, friends, peers, and community members, and that supports social interdependence (AOTA, 2020, S34). Thus, these experiences of positive social interactions demonstrate occupational engagement in the occupation of social participation for the participants in the study.

Implications

Overall, the results of this study reveal that the use of personalized music can unanimously produce positive emotions while minimizing negative emotions. As Paul Reia points out in his work on habilitation therapy, (1999), eliciting positive emotions is an essential part of success in daily occupations with people who have dementia. While people with dementia will likely forget the song that they listened to, or who they listened to the music with, the positive emotions that personalized music elicits will likely stay with an individual throughout the day. This is likely because the areas of the brain associated with emotion remain relatively untouched by dementia, making it possible for those with dementia to generate lasting positive or negative emotions.

The findings of this study also indicate that personalized music can promote positive experiences associated with social participation in this population. Data analysis revealed many observations of residents interacting with the researcher facilitating the music experience including eye contact, smiling, and talking. While these interactions do require a second person in future scenarios, this finding does indicate that personalized music provides a medium through which people with dementia can engage in the occupation of social participation.

Initially, a primary interest of this study was to see how personalized music could assist with all aspects of occupational engagement during mealtimes. While the results of this study have largely pointed to several positive impacts associated with the use of personalized music, there were limited observations regarding the actual consumption of food. The primary reason for this was limitations associated with the time in which researchers were permitted to record videos of residents. As a result of this, many residents did not yet have a meal in front of them when the music interventions were implemented and they were being recorded. This challenge made capturing observations of mealtime engagement difficult. Despite this difficulty, the reviewers were still able to note 13 instances of residents interacting with utensils or items on the table, as well as bringing food to their mouths. Had the timing of the videos been slightly altered, it is likely there would have been many more instances of food interaction observed by the team

of reviewers. Going forward, a more specific look into this aspect of the mealtime experience with personalized music would be beneficial.

Limitations

While the results of this observational study demonstrate an overall positive experience associated with the use of personalized music during mealtimes, there are many limitations associated with this study that should be noted. The first, and likely most important issue was that the method and time frame in which the personalized music interventions were administered and video recorded was not uniform. This was especially problematic for the data analysis component of this study because the reviewers were only able to view a set point of time rather than being able to see the entirety of the mealtime experience. As a result, reviewers likely did not have the full picture of the personalized music experience based on the vid clip that was provided. This discrepancy is most obvious in the video recording of J.F., who is very clearly eating her meal while listening to her music. This scene is starkly different from other recorded videos in which the residents do not have access to their meals at the time of recording. Due to the nature of the research team's role as a consultant at Rockridge Retirement Community, the needs of the facility always came first when considering how to conduct this research study. As a result, the research team often adapted the methodology of this study to limit inconveniences to the site or the residents' daily routines. In future studies it would be extremely beneficial to replicate this study with a more standardized routine for video recording and providing personalized music interventions.

In addition to this limitation, the method for collecting personalized music recommendations for each resident was also not standardized. Some personalized music recommendations were collected from a resident's family members, while recommendations for other residents were collected from staff. As a result, it is difficult to know exactly whether the music that was recommended by staff or family included songs that were truly meaningful to the residents.

Another limitation in this study is that there was no control group to compare to. In the context of this study, it would have been very beneficial to have a control group of individuals with dementia who

did not receive a personalized music intervention. This could have been done by first observing the residents with dementia without the use of personalized music for some time, and then providing personalized music for the same amount of time. It also could be done by splitting the residents into two groups, with one being the control group and the other being the treatment group. To further develop a correlational or causal relationship between personalized music and occupational engagement, a more standardized approach with a control group would be beneficial. Along with this idea, a sample size that is larger than four residents would also help make the data collected in this study be more generalizable to the larger population.

Another limitation in this study was that the observational responses were not able to be separated by resident during data analysis. This meant that all of the observations that were documented by the reviewers were lumped together into a larger category. While the collected information does provide great data on the overall impact of personalized music on mealtime engagement with people who have dementia, it makes it challenging to see individual discrepancies that could contribute to understanding why some individuals react differently to personalized music than others. During direct observation by the researchers at Rockridge, it was clear that one resident was responding to the music in a much different way than her three counterparts. Rather than tuning in to the music, this particular resident became extremely relaxed and tired during her music intervention. While this was much different than how others responded, this discrepancy was not directly accounted for in data analysis. Instead, her response was lumped in with all of the responses from the group. As a result, this may alter how the collected data can be utilized in the future.

Another significant limitation in this study is the presence of many confounding variables during mealtimes. Many of these confounding variables are associated with the 'Successful Dining' program that the researchers were concurrently conducting with the same residents while onsite at Rockridge. The purpose of the 'Successful Dining' program was to implement modifications to the physical mealtime environment. These modifications will include changing a resident's positioning at the table or the way that their food is plated. These changes in the mealtime experience served as confounding variables that

made it difficult to determine whether any improvements in self-feeding ability were a result of the new ‘Successful Dining’ strategies or the personalized music intervention. In future research, it would be beneficial to conduct the personalized music intervention in isolation from other self-feeding interventions to better isolate the independent variable of personalized music.

In all, this study has many definitive limitations that limit the capacity for any results associated with this study to be generalized to other settings. While this study followed an observational descriptive design, a case study methodology may reveal important findings that would further enhance this body of research.

Summary and Conclusions

While more research in the form of a case study methodology is needed to confirm the relationship between personalized music and occupational engagement during mealtime for people with dementia, the findings of this study add value to the current body of literature on this topic. This study has been able to identify areas of occupational engagement during mealtimes that personalized music can enhance. Particularly, this study revealed that during the use of personalized music interventions, residents were observed demonstrating positive facial expressions, such as smiling and laughing. Additionally, personalized music interventions helped to facilitate the residents in social interaction, which is a valuable aspect of occupational engagement during mealtimes. The methodology described in this project can also be utilized as a foundation for future research projects on this topic. Individuals with dementia can benefit from personalized music interventions and these options should continue to be explored in future studies. While symptoms of dementia can often strip away an individual’s capacity to use their voice, nonpharmacological, person-centered interventions focused on promoting independence can help people with dementia connect with themselves and those around them.

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VIII. Appendices

APPENDIX A: The Dementia Mealtime Assessment Tool
(DMAT)

Please tick any observed difficulties

Observed Mealtime Difficulty: Ability to Self Feed	Not Seen	Seen Once	Seen Repeatedly
Incorrectly uses cutlery (spoon, fork, or knife)			
Difficulty getting food onto cutlery (spoon, fork, or knife)			
Difficulty cutting meat (or other foods)			
Difficulty identifying food from plate			
Plate slides or is moved around the table			
Has difficulty using cups or glasses			
Has difficulty seeing or identifying cups or glasses			
Spills drinks when drinking			
Slow eating or prolonged mealtimes			
Falls asleep or is asleep during meal time			

Observed Mealtime Difficulty: Preferences with food	Not Seen	Seen Once	Seen Repeatedly
Prefers sweet food or eats desserts/sweets first			
Only eats certain foods			
Eats (or drinks) too fast			
Mixes food together			
Doesn't eat lunch but eats breakfast and some dinner			
Eats very small amounts of food (or drink)			
Eats other people's food (or drink)			

Observed Mealtime Difficulty: Oral difficulties & behaviors	Not Seen	Seen Once	Seen Repeatedly
Bites on cutlery (spoon, fork, knife)			
Difficulty chewing			
Difficulty swallowing or refusing to swallow			
Prolonged chewing without swallowing			
Does not chew food before swallowing			
Holds food or leaves food in mouth			
Spits out food			
Does not open mouth			

KEY:**Not Seen = difficulty not observed today****Seen Once = difficulty observed at least once****Seen Repeatedly = difficulty observed twice or more often**<https://thedmat.com/>

APPENDIX B: Participant Music Preferences

P.T. Music Preferences

- James Taylor
- The Best Little Whorehouse in Texas soundtrack
- Traditional Hymns (sang in the choir at Episcopal church)
- The Beatles

Purchase Music

1. Fire and Rain (2019 Remastered) by James Taylor **PURCHASED**
 - a. \$1.29
 - b. Amazon Music
2. Carolina in My Mind (2019 Remastered) by James Taylor **PURCHASED**
 - . \$1.29

3. How Sweet It Is (To Be Loved by You) (2019 Remastered) by James Taylor
PURCHASED
\$1.29
4. I Will Always Love You by Dolly Parton from "The Best Little Whorehouse in Texas"
PURCHASED
\$1.29
5. Hard Candy Candy Christmas by Dolly Parton from "The Best Little Whorhouse in Texas"
PURCHASED
\$1.29
6. Amazing Grace by Elvis Presley PURCHASED
\$1.29
7. In My Life (Remastered 2009) by The Beatles PURCHASED
\$1.29
8. How Great Thou Art by Alan Jackon PURCHASED
\$1.29
9. Here Comes the Sun by The Beatles PURCHASED
\$1.29
10. Let it Be (Remastered) by The Beatles PURCHASED
\$1.29

J.F. Musical Preferences

Per J.F.'s daughter, A.

- Classical Music
- Showtunes
- Jazz
- Movie Music (Rogers and Hammerstein)
- Ballet Music

- a. 1. Beethoven's Fur Elise by Michael Silverman PURCHASED
\$.89
2. Rodger's & Hammerstein's, "Oh, What a Beautiful Mornin'" from Oklahoma by Gordon MacRae PURCHASED
\$1.29
3. Rodger's & Hammerstein's, "My Favorite Things" from The Sound of Music
\$1.29 PURCHASED
4. Rodger's & Hammerstein's, "The Sound of Music" from The Sound of Music
\$1.29 PURCHASED
5. Don't Rain on My Parade by Barbra Streisand
\$1.29 PURCHASED
6. Blue Moon by Billie Holiday
\$0.99 PURCHASED
7. Fly Me to the Moon by Frank Sinatra
\$1.29 PURCHASED
8. Cheek to Cheek by Ella Fitzgerald & Louie Armstrong
\$1.29 PURCHASED
9. Air on a G String by J.S. Bach

. \$0.99 PURCHASED

R.G. Music Preferences

- Polka music
 1. Polish Polka by The Polka Band
 2. Mini Skirt Polka by Jimmy Sturr Orchestra PURCHASED
 1. \$0.99
 3. Doghouse Polka by Babe Wagner
 4. In Heaven There is No Beer by Frank Yankovic PURCHASED
\$0.99
 5. Roll out the Barrel PURCHASED
\$0.99

J.G.'s Music Preferences per her daughter, C.

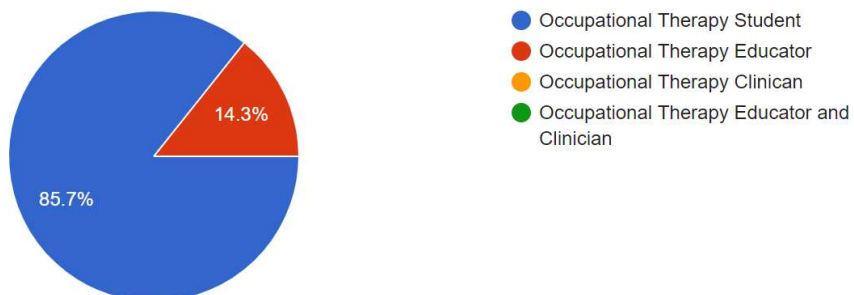
- a. 1. June Comes Around Every Year by Bing Crosby PURCHASED
\$1.29
2. Rodger's & Hammerstein's, "Oh, What a Beautiful Mornin'" from Oklahoma by Gordon MacRae
ALREADY PURCHASED
3. Golden Girls Theme Song PURCHASED
\$1.29
4. Fly Me to the Moon by Frank Sinatra
ALREADY PURCHASED
5. He's Got The Whole World in His Hands by Etta James PURCHASED
\$0.99
6. Hey Jude by The Beatles PURCHASED
\$1.29
7. Singin' in the Rain by Gene Kelley PURCHASED
\$0.89
8. Turkey in the Straw by Mike Scott PURCHASED
\$0.99
9. A Little Bitty Tear by Burl Ives PURCHASED
\$1.29
10. Grandfather's Clock by Burl Ives PURCHASED
\$0.99
11. Over the Rainbow by Jude Garland PURCHASED
\$1.29
12. Don't Rain on My Parade
13. The Sound of Music
14. My Favorite Things
15. Oh, What a Beautiful Morning

APPENDIX C: Demographic Questionnaire for Reviewers

Which of the following best describes your current role in occupational therapy?

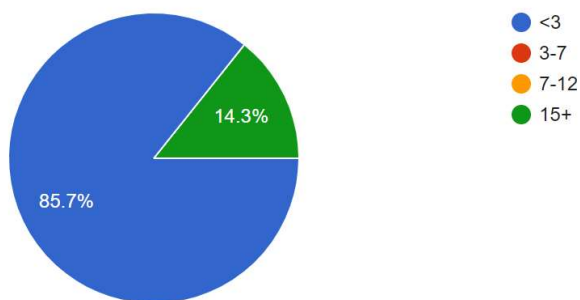


7 responses



How many years of clinical experience (including fieldwork) in occupational therapy have you had?

7 responses



APPENDIX D: Independent Reviewer Submission Form



Independent Reviewer Submission Form

Thank you for taking the time to serve as an independent reviewer for my final DEX project. PLEASE read all instructions before continuing. (:

IMPORTANT: The videos you will be granted access to for this data analysis are confidential and CANNOT be filmed, saved, or recorded in any way. Once you complete this form, your access to these videos will be immediately revoked in order to maintain the privacy of the featured residents. Thank you for your cooperation!

Instructions:

Please utilize this form in conjunction with the videos posted at the following link:

<https://drive.google.com/drive/folders/1YBVhXv4xG6yEwQtNyVj6gCtylvjOKJXI?usp=sharing>

Please watch each of the posted four videos documenting residents with dementia being presented with music that is personally meaningful to them via an MP3 player. As you watch, please note the resident's overall response to the music including their mood, demeanor, and verbal/nonverbal expressions. Feel free to take notes on paper as you watch. You may rewatch each video as many times as you need. After watching each video, please record between 3-10 of your observations about THE RESIDENT'S response using phrases of no more than five words under the respective header for each resident. See example below:

Ex.) Looks very happy. Apathetic. Eyes closed occasionally. Makes eye contact with facilitator.

[Next](#)



Independent Reviewer Submission Form

P.T

Please list 3-10 of your observations using phrases of no more than five words.

Your answer

[Back](#)

[Next](#)

APPENDIX E: Mealtime Engagement Observation Checklist

Mealtime Engagement Observation Checklist

Resident Initials:

Facial Expressions

- Smiling
- Frowning
- Humorous
- Scowling
- Relaxed
- Happy
- Anxious
- Fearful
- Bored
- Other

Interaction with Food

- Interacting with utensils

APPENDIX G: Secondary Data Analysis via Google Forms

Mealtime Engagement Observational Checklist

Please check off the corresponding box each time a participant identifies content that is listed. Use the "other" box to add additional content that was not included.

Resident Name?

Choose

Participant #?

Choose

Facial Expressions

- Smiling
- Frowning
- Humorous
- Scowling
- Relaxed
- Happy
- Anxious

APPENDIX G: Literature Review

An Exploration of the Intersection of Music, Self-Feeding, and Dementia Care Excellence:

A Literature Review

Amongst the population of older adults living with dementia, self-feeding has been identified as an area of difficulty. Self-feeding is described by the Occupational Therapy Practice Framework as tasks associated with setting up, arranging, and bringing food or fluid from the vessel to the mouth (AOTA, 2020, S30). During the beginning stages of dementia, individuals may experience irregular feeding patterns (Mitchel et al., 2009), such as eating with their hands instead of utensils. Individuals with Alzheimer's disease often experience a delayed oral transit time in both food and liquids that may be associated with the impaired perception of food within the oral cavity (Prifer & Robbins, 1997; Suh, Kim, & Na, 2009). As dementia progresses, individuals may lose their ability to swallow both solids and liquids, resulting in weight loss and discussions regarding the ethics of artificial nutrition (Mitchell et al., 2009). Of the 47% of individuals in the United States with dementia who currently live in nursing homes (AHCA, 2009), more than half lose some ability to feed themselves (Leclerc et al., 2004). As individuals with dementia lose their ability to self-feed, they are at an increased risk for agitation and distress at mealtime, dehydration and malnutrition, and aspiration that can lead to relational pneumonia (Wirth et al., 2016). This is especially problematic because pneumonia was found to be the most common cause of death in patients with Alzheimer's disease (Todd, Barr & Passmore, 2013). A 2019 two-year longitudinal study conducted in a Japanese nursing home further explores this connection between self-feeding ability and mortality (Sakamotoo et al., 2019). Using the Self-Feeding Assessment Tool for Elderly with Dementia (SFED), researchers aimed to see if individual scores on the SFED could predict mortality risk in nursing home residents. The results

found that self-feeding ability, including the ability to eat without dropping food, maintain attention to a meal, and swallow without choking were significantly associated with two-year mortality (Sakamotoo et al., 2019). These collective findings indicate that increased attention to occupational performance in the domain of self-feeding is needed in the dementia population. The following literature review will further explore theories of dementia-care practice and the connection between music and self-feeding to provide a foundation for understanding the potential impact of personalized music on occupational engagement during mealtimes.

The Person-Environment-Occupation-Performance Model

While a cure for Alzheimer's disease has not yet been discovered, various health professionals, including occupational therapists, can work with those who have dementia to help preserve function (AOTA, 2020). One approach that occupational therapists often utilize while working with individuals with dementia is to utilize the lens of the Person-Environment-Occupation-Performance (PEOP) Model. The PEOP model is a client-centered approach to care provision that consists of three components. These include the person, the environment, and the occupation (Law et al., 1996). Within this model, the 'person' refers to the individual and their distinct abilities, personal preferences, and experiences (Wong & Leland, 2018). The 'environment' is composed of the physical, social, cultural, and socio-economic factors surrounding an individual at any given time (Wong & Leland, 2018). 'Occupation' refers to the functional tasks and activities that an individual engages in (Wong & Leland, 2018). Occupations may include things like self-feeding, social activity, and toileting, to name a few. Finally, 'Performance' refers to the individual's capacity to engage and participate in occupation. These components of the PEOP model each interact with one another in distinct ways to promote various experiences of occupational engagement and

mastery. While characteristics of the person and desired occupation are often difficult to change, modifications to the environment (such as the use of music), may provide an in-road for the promotion of improved occupational performance.

The Intersection of Person-Centered Care and Personhood in Dementia Care

One frequent challenge with the provision of care for individuals with dementia is a tendency for healthcare professionals to focus their efforts according to the medical model, which focuses on health as the absence of disease and views the sick body as a malfunctioning machine (Tantawi, 2020). This perspective can often limit attention towards an individual's personhood and can lead to disengagement towards the end of life (Smith & D'Amico, 2020). An alternative to this model is the use of person-centered care, which can be described as a philosophy of care built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship (Fazio et al., 2018). Many existing theories of person-centered care are based on the work of Thomas Kitwood (1998). Kitwood proposed that dementia is best understood as the interplay between neurological impairment and psychosocial factors such as health, individual psychology, the environment, and social context (Fazio et al., 2018). This view of dementia provides a stark contrast to the strictly medical view of dementia initially understood by healthcare professionals. In addition to ideas of person-centered care, the concept of personhood is another important component of dementia-care excellence. In the legal sense of this term, personhood is a concept that determines what constitutes a person in the eyes of the law (Zukauskas, 2020). When thinking about personhood as it pertains to dementia, Kitwood (1997) separates personhood from its legal connotations and argues that personhood should instead be conceptualized to include relationships and moral solidarity, or belief in what is right and wrong. An analysis of person-centered care conducted by

Fazio et al. (2018) asserts that the provision of care based on knowing the person within the context of an interpersonal relationship is supported as best-practice care. With this in mind, Fazio et al. (2018) makes the following practice recommendations: (1) know the person living with dementia, (2) recognize and accept the person's reality, (3) identify and support ongoing opportunities for meaningful engagement, (4) build and nurture authentic, caring relationships, (5) create and maintain a supportive community for individuals, families, and staff, and (6) evaluate care practices regularly and make appropriate changes. Points one and three lend support to the use of personalized music as a way of encouraging meaningful occupational engagement.

Habilitation Therapy

Another approach to treating individuals with dementia that stems from ideas of personhood and person-centered care is habilitation therapy. While rehabilitation models focus on assisting individuals in returning to their level of functioning prior to illness or injury, the habilitative model instead emphasizes maximizing the functional independence at the individual's current level (Reia, 1999). For those who have experienced a significant decline in cognitive function, Reia (1999) argues that one of the best ways to maximize functional independence is to elicit positive emotions throughout the day. This is particularly helpful because the ability to feel emotions does not diminish with dementia (Reia, 1999). The Centers for Medicare & Medicaid Services (CMS) led an innovation study in 2013 to help determine whether habilitation therapy techniques could be utilized to help manage dementia-related behaviors. In this study, 30 Massachusetts nursing homes participated in the project over a 12-month period. The project involved the creation of an interdisciplinary behavior team, habilitation therapy training, various check-ins, and monthly collection of process and measure

data. The primary intervention during this study was the provision of 10 hours of habilitation therapy training to staff, as well as the utilization of interdisciplinary behavior teams to help track and understand resident behaviors. Researchers were interested in looking at the connection these interventions have to quality measures including the use of antipsychotic medications, the experience of depression symptoms, and the frequency of falls, urinary tract infections, and the use of physical restraint (Fitzler et al., 2016). At the end of the 12-month period in which the habilitation therapy interventions were implemented, it was found that participating facilities showed improvement on 9 of the 12 reported measures (Fitzler et al., 2016). The most notable impact was seen in a 42.03% decrease in self-reported resident-on-staff altercations (Fitzler et al., 2016). These results demonstrate the value of habilitation therapy as a way of reducing negative outcomes at skilled nursing facilities.

Music and Dementia

While dementia severely impacts many areas of the brain and makes it difficult for individuals to participate in meaningful tasks, the ability to listen to and appreciate music is often retained in dementia. This preserved ability is thought to be linked to the fact that dementia can affect regions of the brain linked to music cognition more slowly than other regions (Simmons-Stern, Budson, & Ally, 2010). Another theory is that music's ability to heighten arousal can help alleviate attentional deficits that are often found in dementia (Simmons-Stern et al., 2010).

Several studies have found positive outcomes associated with the use of therapeutic music interventions in the dementia population. In one qualitative study conducted by McDermott, Orrell, & Ridder (2014), researchers led focus groups and interviews at two care homes in the United Kingdom where music therapy was being facilitated by the study's lead

researcher (Orrii McDermott). These focus groups and interviews were conducted with staff, therapists, family members, and residents to help determine the experience of individuals with dementia when participating in music therapy. The findings of these focus groups revealed that the use of music therapy had an overwhelmingly positive impact on the residents. Music was described by the focus group participants as a readily accessible medium of engagement that residents could utilize to better connect to the 'here and now' of the moment (McDermott, Orrell & Ridder, 2014). Music therapy was also identified by participants as a manner for residents to better connect to their personal histories as well as one another (McDermott, Orrell & Ridder, 2014). Families and care partners also found that music therapy had an overwhelmingly positive impact on the mood of residents as well as the overall environment of the care home. Despite the positive feedback from staff and residents, music therapists who also participated in the focus group noted their difficulty maintaining credibility in their work and finding appropriate times and spaces to provide music therapy (McDermott, Orrell & Ridder).

There have also been several other recent studies that analyzed the ways that music can help improve cognitive functioning for those with dementia. One study conducted by Gómez & Gómez (2017), looked at 42 patients who had mild to moderate Alzheimer's disease and underwent six weeks of music therapy. At the conclusion of the study, significant improvements in memory, orientation, depression, and anxiety in both mild and moderate cases were discovered. In moderate cases of Alzheimer's disease, an improvement in delirium, hallucinations, agitation, irritability, and language disorders were observed (Gómez & Gómez, 2017). These findings were observable after only four music therapy sessions,

indicating the overall positive impact that music therapy can have on individuals with dementia.

Another 3-year study conducted by researchers at the Betty Irene Moore School of Nursing at UC Davis similarly aimed to study the effects of a nonpharmacologic intervention (Music & Memory) on residents with dementia or behavioral problems living in nursing homes (Bakerjian et al., 2020). The results of this study found an association between the Music & Memory program and reductions in psychotropic medication taken and fewer distressed behaviors (Bakerjian et al., 2020). Another interesting study regarding music and dementia is a 2019 study out of the United Kingdom (Cunningham et al., 2019). In this study, researchers utilized a musical mobile app as a way to promote task-song association during various daily activities. Various tasks were displayed on an android tablet device, and as a resident went to complete a given task, they would select the corresponding icon which would cue up a specific playlist. Each playlist was unique to its corresponding task, meaning songs were not repeated amongst tasks (Cunningham et al., 2019). Researchers aimed to see whether the use of this app improved various components of a resident's life including their happiness, physical health, and memory. At the conclusion of the study, quantitative data associated with these measures was not determined to be significant; however, in conjunction with qualitative data collected from staff, researchers found that use of the mobile music app produced positive changes in terms of behavior, ability, and routine in the life of residents living with dementia (Cunningham et al., 2019). Each of these studies lays a foundation for future studies on the use of music for individuals with dementia.

Personalized Music and Dementia

While there are a number of general musical interventions that can improve functioning in individuals with dementia, utilizing a person-centered care approach via music has also been found to be beneficial. Researchers at the University of Utah Health, for example, conducted a study of 17 individuals with Alzheimer's using functional magnetic resonance imaging (MRI) following training with personalized music listening programs (King et al., 2019). The results of the imaging associated with this study found that personally meaningful music showed specific activation of the supplementary motor area of the brain that is typically spared in early Alzheimer's disease. Additionally, this study also found widespread increases in connectivity in corticocortical and corticocerebellar networks following the presentation of preferred music, which may be indicative of improvements in brain network synchronization (King et al., 2019). These findings suggest the potential for familiar music to facilitate attention, reward, and motivation to make it more possible to help manage emotional distress in Alzheimer's disease (King et al., 2019).

Another critical study on this topic was conducted by Cohen et al. (2020) out of Columbia Health Care Center in Wyocena, Wisconsin, and in collaboration with researchers at Stony Brook University. The objective of this study was to explore whether listening to personal music could ease dysphagia and related eating problems (Cohen et al., 2020). In this study, five residents who had difficulty swallowing or feeding themselves were identified and asked to participate. In the end, four residents ended up participating for the full duration of the study. Without the personalized music intervention, the average food intake for the four subjects was 41.4% of their meals. After researchers provided residents with a personalized playlist a half-hour prior to dinner time, the average food intake increased to 71.4% (Cohen et al., 2020). This statistically significant increase was supplemented by team observations of improved swallowing

and nutritional status and decreased choking incidents during mealtime. It was also noted that the participants' weights stabilized, the participants had less need for speech interventions or thickened liquid, and their overall quality of life was enhanced (Cohen et al., 2020). While the sample size was admittedly small in this study, the findings of this study indicate evidence for the use of personalized music as a way to improve quality of life for individuals with dementia, as well as to prevent unnecessary transitions to PEG tube feeding systems.

Conclusion

As described in the preceding literature review, music has been utilized to promote a number of positive outcomes for individuals with dementia. Some of these positive outcomes include improved mood (McDermott, Orrell & Ridder, 2014), as well as improved memory, orientation, depression, and anxiety in mild to moderate cases of dementia (Gómez & Gómez, 2017)). In cases of moderate dementia, music was found to lead to improvements in delirium, hallucinations, agitation, irritability, and language disorders (Gómez & Gómez, 2017). These findings align well with theories of dementia care practice which indicate the value of person-centered care practices that elicit positive emotions throughout the day (Kitwood, 1997; Reia, 1999; Wong & Leland, 2018). Through the use of music, care providers may be able to tap into a simple, non-pharmacological intervention that can help mitigate symptoms associated with dementia.

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APPENDIX I: Critically Appraised Paper on the Topic of Music and Dementia

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16 June 2021

The Benefits of Music with the Dementia Population

Introduction

Dementia is an umbrella term for a loss of memory and other thinking abilities that are severe enough to interfere with everyday life (Alzheimer's Association, 2020). In the United States, there are 5.8 million Americans who are living with Alzheimer's dementia (AD), with this number being expected to rapidly increase to 88 million by 2050 (Alzheimer's Association, 2019). Some of the challenges associated with dementia include a progressive decline in one's ability to make decisions, communicate with others, and perform functional tasks (McDonald et al., 2010). During advanced stages of dementia, memory, verbal skills, ambulation abilities, and the capacity to perform activities of daily living are significantly impaired (Mitchell, 2015). As a result of these challenges, many individuals with dementia are often unable to age in place at their homes and must consider other residential options such as assisted living residences (ALRs) or skilled nursing facilities (SNFs).

Currently, limited options exist to effectively treat patients with dementia, and disease progression cannot be reversed or cured (Hamdy et al., 2019). In 2010, five drug therapies were approved to treat AD (Casey, 2010). These drugs have been approved not to cure or alter the outcome of the disease, but to provide palliative support for associated symptoms (Qaseem et al., 2008). Despite the approval of these drugs, many criticize their associated expense, with the medications costing well over \$1 billion per year in the United States alone (Grady, 2007). These drugs have also been scrutinized by the British National Institute for Clinical Excellence (NICE) for not being able to meaningfully improve the quality of life for people with dementia or delay transitions to skilled nursing facilities despite their massive costs (Casey, 2010). While a new drug produced by Biogen, Aduhelm, was recently approved by the Federal Drug Administration (FDA) to treat AD (Marx, 2021), even this drug is being heavily scrutinized. Recent reports have examined the FDA's accelerated

approval for this drug despite the overwhelmingly negative opinions and subsequent resignations of members of the Peripheral and Central Nervous System Drug Advisory Committee, an organization that cast 10 votes against Aduhlem's approval. (Specter, 2021). With this in mind, it is clear that pharmacological approaches to managing the symptoms of dementia are not yet ethical, effective, or sustainable. To better promote quality of life in the dementia population, more evidence-based, nonpharmacological approaches to symptom management are needed. One such approach is the use of music, which has been widely identified as a potential non-pharmacological intervention to help treat cognitive or behavioral symptoms of dementia (Leggieri et al., 2019). The following literature review will further explore the use of music with people with dementia to better understand the viability of its use to help improve the quality of life for people with dementia.

Theories of Dementia Care Excellence and Music

To best understand how music can benefit the dementia population, further exploration of various theoretical perspectives of dementia care provides insight. The first relevant theory is that of habilitation, a model of dementia care practice that emphasizes maximizing the individual's functional independence at their current level, rather than attempting to rehabilitate them to a higher level (Reia, 1999). To do this, Reia (1999) proposes eliciting positive emotions from individuals with dementia throughout the day. While individuals with dementia do not always remember why they feel a certain emotion, their capacity to *feel* emotions such as happiness or anger is not impacted by their disease (Reia, 1999). Habilitation theory proposes that the experience of emotions, whether positive or negative, are carried with an individual throughout the day. As a result, this experience of emotion can impact the individual's capacity to fully participate in activities such as feeding, toileting, or bathing hours after the individual first experienced a strong emotion. With the experience of negative emotion, an individual may refuse to participate in showering because of a negative event in the morning. Although the memory of the event will not carry, the emotions it elicited do, making later tasks challenging. With extra attention being placed on the facilitation of positive emotions, as habilitation therapy suggests, a positive emotion that is experienced during the day will also carry over and improve the individual's capacity to fully participate (Reia, 1999). Music is one tool that can tap into the theory of habilitation by eliciting positive emotions associated with the music the individual is

listening to. By using music that brings people with dementia positive emotions from their earlier lives, habilitation therapy theory suggests that this will facilitate greater success in other activities throughout the day.

In a 2013 study conducted by the Centers for Medicare & Medicaid Services (CMS), habilitation therapy techniques were found to be effective in reducing dementia-related behaviors. In this study, 30 Massachusetts nursing homes participated over 12 months in the creation of an interdisciplinary behavior team, habilitation therapy training, various check-ins, and a monthly collection of process and measure data. In each of the 30 nursing homes participating in the study, 10 hours of habilitation therapy training was provided to staff. Additionally, interdisciplinary behavior teams were utilized to help track and understand resident behaviors. Researchers were interested in looking at the impact these education-based habilitation therapy interventions had on quality measures including the use of antipsychotic medications and the experience of depression symptoms, as well as the frequency of falls, urinary tract infections, and the use of physical restraint (Fitzler et al., 2016). At the end of the 12-month period in which the habilitation therapy interventions were implemented, it was found that participating facilities showed improvement on 9 of the 12 reported measures (Fitzler et al., 2016). The most notable impact was seen in a 42.03% decrease in self-reported resident-on-staff altercations (Fitzler et al., 2016). These results demonstrate evidence for the success of habilitation therapy techniques with the dementia population and also leave room for further use of habilitation therapy as it intersects with music.

Another helpful theory to guide the use of music with the dementia population is that of person-centered care. This theory stems from the work of Kitwood (1997), who emphasized the importance of an individual's personhood, or 'a standing or status bestowed upon one human being, by others, in the context of relationship and social being' (Kitwood, 1997). This idea emphasizes the social connection that people with dementia experience in the context of their care environments. When a positive social relationship is emphasized between care partners and individuals with dementia, Kitwood (1997) argues that the individual with dementia is better able to thrive. Music, especially in the context of music therapy, is a tool that can accent person-centered care through its emphasis on relationship building through musical interactions (McDermott, Orrell, & Ridler, 2014). Kitwood's (1997) work also centered on seeing individuals

with dementia as autonomous beings with their own interests, values, and preferences. According to this theory, it is important for musical interventions to reflect the music that is of personal significance to the individual with dementia who is listening. In a 2019 literature review of 13 papers on the topic of music with the dementia population, a consistently reported finding was that the use of individualized music playlists led to positive outcomes in both cognition and behavior (Leggieri et al., 2019). This finding demonstrates the inherent value of utilizing individualized music selections as part of a person-centered approach to providing dementia care excellence.

A final theory, the theory of *communicative musicality* proposed by Malloch & Trevarthen (2009), suggests that elements of musicality are present in all forms of human communication. This idea suggests that music can be used as a helpful, communicative tool for people with dementia and builds upon Kitwood's (1997) emphasis on taking the time to understand the communicative attempts made by people with dementia.

Music and Brain Physiology

While dementia severely impacts many areas of the brain and makes it difficult for individuals to participate in meaningful activities, the ability to listen to and appreciate music is often retained in dementia. This preserved ability is thought to be linked to dementia's tendency to affect regions of the brain linked to music cognition more slowly than other regions (Simmons-Stern, Budson, & Ally, 2010). This may be attributed to music's tendency to activate broad networks of the brain rather than a singular musical area. A study conducted by Jacobsen et al. (2015) confirmed this theory via the use of a Positron Emission Tomography (PET) scan. In this study, researchers investigated the degree to which music-listening areas of the brain demonstrated evidence of amyloid build-up associated with AD pathology. The findings of this study indicated that music-listening areas of the brain experienced less pathology than others, making music a unique stimuli that individuals with dementia may be better able to perceive and relate to (Jacobsen et al., 2015). This theory was also confirmed in a separate study conducted by Simmons-Stern, Budson, and Ally (2010). In this study, researchers assessed whether patients with AD would be better able to recall spoken popular nursery rhymes or nursery rhymes that were sung with full musical

accompaniment. The results of the study found, that individuals with dementia were better able to recall the presented words when they were sung with music, as compared to when they were spoken (Simmons-Stern, Budson, & Ally, 2010). This difference, however, was not seen in healthy adult controls who were able to recall the same number of words after listening to both the spoken and sung nursery rhymes. These results, similar to the aforementioned studies, provide evidence which indicates that music activates a robust neuronal network in the brain that dementia is slower to impact than other areas (Simmons-Stern, Budson, & Ally, 2010). This information provides a foundational understanding of how music can subvert affected regions of the brain in dementia.

The Therapeutic Use of Music in People with AD

Several studies have found positive outcomes associated with the use of therapeutic music interventions in the dementia population. In one qualitative study conducted by McDermott, Orrell, & Ridder (2014), researchers led focus groups and interviews at two care homes in the United Kingdom where music therapy was being facilitated by the lead researcher on the study (Orrii McDermott). The focus groups and interviews were conducted with staff, therapists, family members, and residents to help determine the experience of individuals with dementia when participating in music therapy. The findings of these focus groups revealed that the use of music therapy had an overwhelmingly positive impact on the residents. Music was described by the focus group participants as a readily accessible medium of engagement that residents could utilize to better connect to the 'here and now' of the moment (McDermott, Orrell & Ridder, 2014). Music therapy was also identified by participants as a manner for residents to better connect to their personal histories as well as one another (McDermott, Orrell & Ridder, 2014). Families and care partners also found that music therapy had an overwhelmingly positive impact on the mood of residents as well as the overall environment of the care home. Despite the positive feedback from staff and residents, music therapists who also participated in the focus group noted their difficulty maintaining credibility in their work and finding appropriate times and spaces to provide music therapy (McDermott, Orrell & Ridder).

In addition to the qualitative findings from the previous study highlighting the value of music for individuals with dementia and its associated improvement in the mood of individuals with

dementia, other recent studies have analyzed the ways that music therapy can help mitigate symptoms of dementia. One such study conducted by Gómez & Gómez (2017), looked at 42 patients with mild to moderate AD before, during, and after they underwent six weeks of music therapy. This study aimed to determine if the use of music therapy could impact cognitive, behavioral, and psychological problems for those living with AD utilizing a variety of assessment tools (Gómez & Gómez, 2017). These assessment tools included the Mini-Mental State Examination (MMSE), the Neuropsychiatric Inventory (NPI), the Hospital Anxiety and Depression Scale (HADS), and the Barthel Index (BI). After the six weeks of music therapy, significant improvements in memory, orientation, depression, and anxiety in both mild and moderate cases of AD were discovered. It was also found that in moderate cases of AD, improvements in delirium, hallucinations, agitation, irritability, and language disorders were observed (Gómez & Gómez, 2017). These findings were observable after only 4 music therapy sessions, indicating the quick and positive impact that music therapy can have on individuals with AD. The only measure that did not demonstrate improvement in this study was depression, as measured by the NPI. Depression did improve as measured by the HADS, however (Gómez & Gómez, 2017). Overall, these findings contribute to the growing body of evidence indicating music therapy's role in improving commonly experienced symptoms of dementia.

A 3-year study conducted by researchers at the Betty Irene Moore School of Nursing at UC Davis aimed to study the effects of a nonpharmacologic Music & Memory intervention program on residents with dementia or behavioral problems living in nursing homes (Bakerjian et al., 2020). Researchers in this study assessed 4,107 residents across 265 nursing homes in the state of California. Residents were assessed at baseline as well as quarterly throughout the study on various pieces of data pulled from the Minimum Data Set (MDS), a collection of data on residents that nursing homes in the United States are required to report on. The figures from the MDS that were analyzed in this study included psychotropic drug use, cognition, pain, behaviors, mood, and falls (Bakerjian et al., 2020). At the culmination of this study, collected data revealed an association between the usage of Music & Memory interventions and reductions in psychotropic medication taken by residents and fewer distressed behaviors experienced by residents (Bakerjian et al., 2020).

A 2019 study out of the United Kingdom took a novel approach to its study of music with the dementia population by looking at the intersection of music, technology, and daily activity (Cunningham et al., 2019). In this study, researchers utilized a musical mobile app as a method of promoting task-song association during various daily activities. Various daily tasks were displayed on an android tablet device, and as a resident went to complete a given task (i.e. shower, dress, eat), they would select the corresponding icon which would cue up a specific playlist. Each playlist was unique to its corresponding task, meaning that songs were not repeated amongst tasks (Cunningham et al., 2019). If a song was included in the shower playlist, for example, it would then not be included in the playlists for any other tasks. Researchers aimed to see whether the use of this app improved various components of a resident's life including their happiness, physical health, and memory. At the conclusion of the study, quantitative data associated with these measures was not determined to be significant; however, in conjunction with qualitative data collected from staff, researchers found that use of the mobile music app produced positive changes in terms of behavior, ability, and routine in the life of residents living with dementia (Cunningham et al., 2019).

Music During Mealtimes

In addition to these applications of therapeutic music interventions, the use of music during mealtimes has also been broadly studied in the dementia population. In 1996, a Swedish study conducted by Ragneskog et al. (1996) trialed utilizing various types of music during dinnertime at a care facility to see how it would impact residents with dementia. This study specifically aimed to measure how the use of music during mealtime impacted the amount of food that residents consumed, the individual resident's level of emotional, motor, and intellectual impairment, and the individual's experience of symptoms of dementia, such as confusion, irritability, anxiety, fear-panic, depressed mood, and restlessness (Ragneskog et al., 1996). The researchers also manipulated the type of music being utilized during the dinner meal to understand what types of music are best suited for this type of intervention. The types of music trialed in this study included soothing music that was soft, melodious, and relaxing in nature, popular Swedish tunes from the 1920s and 1930s, and pop and rock tunes from the 1980s (Ragneskog et al., 1996). Each music intervention was compared against a control period in which no music was played during the dinnertime meal. The

overall findings of this study indicated that the residents with dementia were less irritable, anxious, and depressed during any period that music was played at dinner. The type of music that led to the greatest overall reduction of these symptoms was soothing music.

Improvement in depressed mood was only seen when soothing music was played (Ragneskog et al., 1996). No change in motor performance, intellectual impairment, or emotional impairment was observed with the presence of any of the various types of music. When measuring the amount of food that resident's consumed, it was found that residents consumed more food during any time that music was playing, regardless of the genre, however, the most significant increase in food intake was seen with pop music. It was also found that the greatest increase in food consumption throughout all music interventions was seen with dessert, although an overall increase was seen with the main course as well (Ragneskog et al., 1996). Despite pop music's relationship to increased food consumption, qualitative surveys administered to care staff indicated that staff did not believe pop music would enhance the dining experience for individuals with dementia (Ragneskog et al., 1996). Ragneskog et al. (1996) also noted in the discussion of their results that the associated decibel level of pop music was deemed to be too high for individuals who may have already experienced hearing loss. For these reasons, the findings of this study concluded that the use of soothing music at dinnertime meals was both a safe and effective intervention to reduce common symptoms of dementia (Ragneskog et al., 1996).

A more recent 2005 study conducted by Hicks-Moore (2005) further analyzed the role of relaxing music in helping to mitigate agitated behaviors experienced by individuals with dementia during meals. This study was conducted with 33 individuals living in a special care unit in Canada. The researchers cycled the presence of music during dinner by having no music present at dinner during weeks one and three of the study and music present at dinner during weeks two and four of the study (Hicks-Moore, 2005). Researchers measured the presence of agitated behaviors using the Cohen-Mansfield Agitation Inventory (CMAI), which measures four components of agitation including aggressive behaviors, physically non-aggressive behaviors, verbally agitated behaviors, and hiding and hoarding behaviors. The researchers chose to measure these components of the CMAI by noting either the presence or absence of each behavior per resident during each meal (Hicks-Moore, 2005). The results produced by this study indicated that agitated behaviors, as a whole, were

reduced when music was present during the evening meal. During weeks one and three when *no music* was played, a total of 69 and 51 agitated behaviors, respectively, were observed. This is as compared to a total of 32 and 24 agitated behaviors, respectively, that occurred during weeks two and four when music was played. More specifically, it was also noted that verbally agitated and physically non-aggressive behaviors, which occurred frequently during weeks with no music, were reduced substantially during weeks where music was utilized during dinner. These findings again indicate that the utilization of relaxing music during the evening meal may help to reduced levels of agitation in residents with dementia living in nursing home facilities (Hicks-Moore, 2005).

Person-Centered Music and Dementia

In the studies previously discussed, it was found that therapeutic music interventions and the use of music during mealtimes can help promote many positive outcomes for people with dementia. Another area of interest that researchers have also studied is the use of person-centered care approaches to music and its resulting impact. These articles build on the work of Kitwood (1997), who proposed and advocated for the use of person-centered care with the dementia population. In one study conducted by researchers at the University of Utah Health, 17 individuals with AD were provided with personalized music listening programs that were chosen via meetings with patients and caregivers. Patients and caregivers were trained on the usage of an iPod with the personalized music of their choice and were then assessed with functional magnetic resonance imaging (fMRI) in the sagittal plane (King et al., 2019). During the assessment, imaging was taken during 20 seconds of the most recognizable portions of each individual's song choice, such as the chorus or introduction (King et al., 2019). The resulting imaging associated with this study found that while listening to personally meaningful music, the participants with AD showed specific activation of the supplementary motor area of the brain that is typically spared in early AD. The fMRI scan also showed widespread increases in connectivity in corticocortical and corticocerebellar networks following the presentation of preferred music, which may be indicative of improvements in brain network synchronization (King et al., 2019). These findings suggest the potential for personally familiar music to facilitate attention, reward, and motivation associated with the observed widespread increases in cerebral connectivity with its use (King et al., 2019).

Another study on this topic was conducted by Cohen et al. (2020) out of Columbia Health Care Center in Wyocena, Wisconsin, and in collaboration with researchers at Stony Brook University. The objective of this study was to explore whether listening to personal music could ease dysphagia and related eating problems for individuals with advanced dementia (Cohen et al., 2020). In this study, five residents with advanced dementia who had difficulty swallowing or feeding themselves were identified and asked to participate. During the course of the study, residents were given iPods with personalized music loaded on them at 4:30 pm and then were served their dinner at 5:00 pm each day (Cohen et al., 2020). Of the five recruited residents, one ended up being excluded from the study due to overstimulation associated with their playlist. Without the personalized music intervention, the average food intake for the four subjects was 41.4% of their meals. After researchers provided residents with a personalized playlist a half-hour before dinner time, the average food intake increased to 71.4% (Cohen et al., 2020). This statistically significant increase was supplemented by team observations of improved swallowing and nutritional status and decreased choking incidents during mealtime. It was also noted that the participants' weights stabilized, the participants had less need for speech interventions or thickened liquid, and their overall quality of life was enhanced (Cohen et al., 2020). While the sample size was admittedly small in this study, the findings of this study indicate evidence for the use of personalized music as a way to improve quality of life for individuals with dementia, as well as to prevent unnecessary transitions to PEG tube feeding systems.

Conclusion

Although there are a variety of approaches to treating dementia, music is one intervention that has seen significant success in promoting overwhelmingly positive outcomes. From the joint perspectives of habilitation therapy, person-centered theory, and communicative musicality (Reia, 1999; Kitwood, 1997; Malloch & Trevarthen, 2009), music provides people with dementia a method of eliciting positive emotions, building social relationships, and communicating with their care partners. While many functions of the brain are damaged with dementia, areas of the brain associated with listening to music are less impacted (Simmons-Stern, Budson, & Ally, 2010; Jacobsen et al., 2015), thus allowing individuals with dementia to better connect with musical stimuli. Therapeutic musical interventions, such as the use of music therapy, have demonstrated various positive outcomes for individuals with dementia including improvements

in mood, memory, anxiety, depression, orientation, hallucinations, agitation, irritation, and delirium (Gómez & Gómez, 2017). Other benefits associated with music therapy include a reduction in both psychotropic medication usage and distressed behaviors (Bakerjian et al., 2020). Music that is used in conjunction with the completion of daily tasks has also been found to enhance task performance by promoting positive changes in behavior, ability, and routine (Cunningham et al., 2019). Music has also been found to enhance dining experiences for individuals with dementia by stimulating the consumption of more food and leading to a decrease in the experience of agitated behaviors during meals (Ragneskog et al., 1996; Hicks-Moore, 2005). One factor that is important to the success of musical interventions with people who have dementia is the use of a person-centered, personalized music approach. This approach has been shown to promote increased brain connectivity in corticocortical and corticocerebellar networks that can help stimulate the brain, as well as improve swallowing and nutritional status and decrease choking incidents during mealtime (King et al., 2019; Cohen et al., 2020). Because music interventions are by nature low cost and easy to implement, music is a promising and effective nonpharmacological intervention technique that can and should be widely utilized to promote positive outcomes for individuals who have dementia.

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APPENDIX J: Tip Sheet on the Benefits of Music with Dementia

THE BENEFITS OF MUSIC FOR PEOPLE WITH DEMENTIA (PWD)

MUSIC AND THE BRAIN




- The part of the brain responsible for listening to music is often preserved in PWD
 - This is due to decreased amyloid plaque buildup in these areas
- Music also activates broader neuronal networks in the brain than speech does

(Simmons-Stern, Bahuan, & Ally, 2010.; Jacobsen et al., 2015).

PERSON-CENTERED MUSIC

- Involves playing an individual personally meaningful music from their life as determined by interviews with the individual, their families, and care partners




- Person-centered, personalized music has been found to promote increased brain connectivity in corticocortical and corticocerebellar networks that simulate the brain - helps with overall functioning!
- Personalized music has also been found to improve swallowing and nutritional status, as well as to decrease choking incidents during mealtime

(King et al., 2019; Cohen et al., 2020).


MUSIC AT MEALTIMES

- The use of music during meals has been found to increase food consumption, decrease agitation during meals, and reduce symptoms of irritability, anxiety, and depression
 - Soothing, relaxing music is the most effective




(Ragneskog et al., 1996; Hicks-Moore, 2005).


THEORIES OF DEMENTIA CARE AND MUSIC

Habilitation Therapy 

- Emphasis on maximizing functioning by eliciting positive emotions
- Music can be utilized as a method of promoting positive emotions

Person-Centered Care 

- Promotion of positive social relationships between care partners and PWD
- Focus on individual interests and values of PWD
- Music can be utilized with PWD to tap into both of these ideas


Communicative Musicality 

- Asserts that music can serve as a helpful tool for PWD to communicate

(Reis, 1999; Kitwood, 1997; Malloch & Tronchetti, 2009).

THE BENEFITS OF MUSIC THERAPY

- In a study by Gómez & Gómez (2017), six weeks of music therapy was found to promote improvements in mood, memory, anxiety, depression, hallucinations, agitation, irritation, and delirium for PWD
- Music therapy has also been found to lead to a decrease in psychotropic drug use and distressed behaviors
- A study by Cunningham et al. (2019) also found that playing music for PWD while they completed self-care tasks (showering, dressing) led to positive changes in behavior, ability, and routine



(Gómez & Gómez, 2017; Bakerjian et al., 2020; Cunningham et al., 2019).

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APPENDIX K: Final DEx Learning Objectives

1. Document my experience in **collaboration** for program or service delivery **with professionals** and/or members of consumer groups who are not occupational therapists. This includes being able to **negotiate the role of occupational therapy** as part of an interprofessional team.
2. **Documentation of a needs assessment for a particular population** and using said assessment as the foundation for **planning a successful Doctoral Experiential Project**. Additional evidence will include **feedback from consumers that indicates the impact of the project on the population they represent**.
3. **Demonstrated proficiency with the use of personal computers, learning platforms, electronic health records**, and assistive technology sufficient to fully document the Doctoral Experiential Project for WNE as well as **for members of the population served by that project**.
4. Recognize and be able to describe the diverse **systems of service delivery that are most cost-effective and considerate for health**, social, and educational settings, both traditional and nontraditional. Through both clinical and reflective writing, be able to **articulate a sensitivity to cultural, linguistic, and other diversities and describe solutions for care disparities**.
5. Document the ability to work with others to identify meaningful objectives, **organize, manage, and motivate people and resources, communicate effectively**, and **oversee action** to accomplish stated program or service goals.
6. Through both **clinical and reflective writing**, be able to articulate the therapeutic/clinical reasoning (procedural, interactive, narrative, ethical, scientific, pragmatic) process that I use during planning, delivery, and evaluation of population-based and evidence-driven occupational therapy services. Demonstrate the ability to implement, in existing programs, and plan for in developing programs, **an occupational therapy process that is occupation-based, client-centered, culturally sensitive, and ethically appropriate**.
7. **Document an experiential and scholarly project** that reflects the literature in the field and uses responsible, ethical methods. **The scholarly process and results** should be made accessible to the college and the community, especially to the population served by the project. **A report of the project**, presented in a professional format that others can replicate or build upon, will be evidence of accomplishment.
8. Through both clinical and **reflective writing**, articulate a clear awareness of my personal and professional strengths and boundaries and identify supports and strategies for goal achievement.
9. Develop a deeper understanding of how person-centered care can contribute towards more positive patient outcomes in residential dementia care settings.
10. Develop clinical skills associated with a person-centered intellectual, physical, and verbal approach to dementia-care excellence.
11. Develop clinical, scholarship, and research skills by learning how to gather data from various sources and synthesize it to develop comprehensive training modules for best practice dementia care in ALRs.
12. Gain experience with interprofessional team collaboration while assuming a leadership role in advocating for the use of person-centered dementia care to promote positive patient outcomes.